FY 1999 CONGRESSIONAL BUDGET REQUEST
WEAPONS STOCKPILE MANAGEMENT
PROGRAM FUNDING PROFILE
(Dollars in Thousands)

	FY 1997 Current Appropriation	FY 1998 Original Appropriation	FY 1998 Adjustments	FY 1998 Current Appropriation	FY 1999 Budget Request
Weapons Stockpile Management					
Core Stockpile Management					
Operations & Maintenance	$ 1,389,500	$ 1,446,348	$ (9,043)	$ 1,437,305	$ 1,549,385
Construction	90,581 a/	83,370		83,370	115,322
Subtotal	$ 1,480,081	$ 1,529,718	$ (9,043)	$ 1,520,675	$ 1,664,707
Enhanced Surveillance					
Operations & Maintenance	$ 53,762	$ 46,060	$ 0	$ 46,060	$ 67,307
Advanced Manufacturing, Design and Production Technologies					
Operations & Maintenance	$ 57,588	$ 73,272	$ 0	$ 73,272	$ 62,600
Radiological/Nuclear Accident Response					
Operations & Maintenance	$ 75,800	$ 79,300	$ (492)	$ 78,808	$ 77,600
Construction	3,825	0	0	0	0
Subtotal	$ 79,625	$ 79,300	$ (492)	$ 78,808	$ 77,600
Tritium Source					
Operations & Maintenance	$ 150,000	$ 184,485	$ (1,145)	$ 183,340	$ 157,000 d/
Construction	0	77,515	0	77,515	0 d/
Subtotal	$ 150,000	$ 262,000	$ (1,145)	$ 260,855	$ 157,000
Materials					
Operations & Maintenance	$ 107,820	$ 61,800	$ (383)	$ 61,417	$ 21,911
Total, Stockpile Management	$ 1,928,876	$ 2,052,150	$ (11,063) b/	$ 2,041,087	$ 2,051,125
Adjustment	$ (45) a/	$ 0	$ (1,870) c/	$ (1,870)	$ 0
Total, Stockpile Management New Budget Authority	$ 1,928,831	$ 2,052,150	$ (12,933)	$ 2,039,217	$ 2,051,125

Public Law Authorization

National Defense Authorization Act for FY 1998, Public Law 105-340, November 1997.

Notes

a/ Reflects application of $45,000 from the "Construction Project Overrun" reserve account to close out project 82-D-109, 155mm Artillery Fired Atomic Projectile Production Facilities, Y-12 Plant ($2,000) and 78-017-D Steam Plant Improvements, Y-12 Plant ($43,000).

b/ Reflects Stockpile Management's allocation of the $20,000,000 General Reduction to the Weapons Activities appropriation.

c/ Reflects use of prior year balances to offset appropriation: $748,138 Core Stockpile Management O&M, $1,121,857 Core Stockpile Management prior year Construction.

d/ FY 1999 Tritium Source request includes $157 million to pursue the option that is selected. If the purchase of irradiation services from commercial light water reactors is selected as the primary option, the budget request will be sufficient to meet current requirements. If the accelerator production of tritium is chosen, without additional funding in FY 1999, the Department will need to seek relief from the current target date for initiating new tritium production.

DEPARTMENT OF ENERGY
FY 1999 CONGRESSIONAL BUDGET REQUEST
WEAPONS ACTIVITIES
(Tabular dollars in thousands, Narrative in whole dollars)

WEAPONS STOCKPILE MANAGEMENT
PROGRAM MISSION

Note: Detailed site funding for Stockpile Management is provided in the Defense Program Executive Budget Summary.

The Defense Programs Stockpile Stewardship and Management Program is a single, highly integrated technical program for maintaining the safety and reliability of the U.S. nuclear stockpile in an era without underground nuclear testing and without new nuclear weapons development and production. Traditionally, the activities of the three weapons laboratories and the Nevada Test Site have been regarded separately from those of the weapons production plants. However, although they remain separate budget decision units within Weapons Activities at this time, all stockpile stewardship and management activities have achieved a new, closer linkage. The program activities are seamless and continual. Assessment and certification pervade all activities, from surveillance through manufacturing. Likewise, computational modeling and prediction are integral to every activity, from the assessments of aging-related changes to the design and certification of replacement components, to projections of stockpile life extension.

Activities in the Stewardship and Management decision units both make contributions in several vital areas for Defense Programs. Examples of these areas of shared responsibility include: enhanced surveillance, advanced manufacturing techniques, stockpile life extension activities, and warhead revalidation, recertification, and rebuilds. Some program activities are funded jointly between the Stockpile Stewardship and Stockpile Management decision units, reflecting both congressional direction and recognition of the historical location of laboratory and plant funding. The activities described in this section of the budget explain all funding provided by the Stockpile Management decision unit, but considering the crosscutting nature of many of the activities, funding for some of the activities described in this section can also be found in Stockpile Stewardship. As mentioned in the Executive Budget Summary, a review of the Defense Programs budget structure will be undertaken in the FY 2000 budget formulation cycle to address these situations.

The Weapons Stockpile Management program supports the enduring stockpile as directed in the Nuclear Weapons Stockpile Plan; assures the availability of adequate supplies of tritium to meet the requirements of the enduring stockpile; provides safe and secure storage of nuclear materials and components to prevent proliferation of capabilities, technologies and systems; provides the ability to respond to potential or real weapon incidents/accidents, and also to respond to continuing and evolving nuclear terrorist threats; and provides a flexible infrastructure capable of supporting changing stockpile sizes.

Weapons Stockpile Management supports the following OBJECTIVES:

- Maintain confidence in the safety, reliability, and performance of the nuclear weapons stockpile without nuclear testing.
- Ensure the vitality of DOE's national security enterprise.
- Reduce nuclear weapon stockpiles and the proliferation threat caused by the possible diversion of nuclear materials.

Weapons Stockpile Management supports the following STRATEGIES:

- Extend the life of U.S. nuclear weapons by continuing the Stockpile Life Extension Program and stockpile maintenance activities.
- Improve detection and prediction capabilities for assessing nuclear weapon component performance and the effects of aging.
- Continually evaluate the safety, reliability and performance of the nuclear weapon stockpile.
- Provide a reliable source of tritium for the nuclear weapons stockpile by FY 2005 or FY 2007 depending on the production option selected.
- Provide an appropriately sized, cost effective, safe, secure and environmentally sound national security enterprise.
- Ensure that sufficient scientific and technical personnel are available to meet DOE's long term national security requirements.
- Ensure and enhance protection of nuclear materials, sensitive information, and facilities.
- Maintain test readiness and maintain and enhance emergency response and management capabilities to address any nuclear weapons, radiological or other emergency in the U.S. or abroad.
- Dismantle nuclear warheads that have been removed from the U.S. nuclear weapons stockpile in a safe and secure manner.

PERFORMANCE MEASURES:

For **FY 1999**, the significant overall performance measures for the Stockpile Management program include:

- Meeting production schedules in the Program Control Documents (PCD) for gas generators, reservoirs, and recertified neutron generators such that no weapon is inoperable due to the lack of these replacement components.
- Meeting the annual weapons alteration and modification schedules contained in the Production and Planning Directive (P&PD) and further delineated in the Program Control Document (PCD).
- Adhering to schedules in the Enhanced Surveillance Program (ESP) Plan for activities that enhance knowledge of weapon-relevant physical processes affecting aging and operation of weapon components.
- Certifying that standards for the safety, reliability, and performance of the nuclear weapons stockpile are met.
- Completing revalidation of the W76 using two teams of experts from the design labs.
- Assuring that all facilities required for successful achievement of the Stockpile Stewardship and Management Plan are operational.
- Completing Title I and starting Title II Design for the Stockpile Management Restructuring Initiative (SMRI) projects at Savannah River and Y-12 and beginning the Title I Design for the SMRI projects at the Kansas City and Pantex Plants.
- Adhere to schedules set forth in the Advanced Design and Production Technology Plan.
- Meet schedules to rebuild, qualify and certify Trident II pits by FY 2001 and develop intermediate pit production capability of 20 pits per year at the Los Alamos National Laboratory by 2007.

- Continue, in FY 1999, material protection, control, and accountability upgrades at three DOE facilities with weapons-usable material.
- No loss of U.S. origin nuclear materials in the U.S. and abroad from theft, loss, or illicit trafficking.
- Maintaining robust emergency response assets in accordance with Presidential Decision Directive 39, The Atomic Energy Act and Executive Order 12656 to ensure Departmental response to any nuclear weapons or radiological emergency in the United States or abroad.
- Continuing ongoing efforts of exercises, training and drills to improve response readiness to any possible weapons of mass destruction and terrorist threat contingency.
- Adhering to schedules for the safe and secure dismantlement of about 500 nuclear warheads that have been removed from the U.S. nuclear weapons stockpile.
- Beginning production of replacement parts for the W87 Life Extension Program.
- Completing resumption of Phase 2 of the Y-12 special nuclear material operations.
- Implementation of the 1998 tritium source decision.

Success will be measured in **FY 1998** by:
- Selecting one of the dual-path options, a new proton accelerator or use of commercial reactors, to become the primary new tritium source.
- Meeting production schedules in the Program Control Documents (PCD) for gas generators, reservoirs, and recertified neutron generators such that no weapon is inoperable due to the lack of these replacement components.
- Meeting the annual weapons alteration and modification schedules contained in the Production and Planning Directive (P&PD) and further delineated in the Program Control Document (PCD).
- Adhering to schedules in the Enhanced Surveillance Program (ESP) Plan for activities that enhance knowledge of weapon-relevant physical processes affecting aging and operation of weapon components.
- Certifying that standards for the safety, reliability, and performance of the nuclear weapons stockpile are met.
- Continuing revalidation of the W76 using two teams of experts from the design labs.
- Assuring that all facilities required for successful achievement of the Stockpile Stewardship and Management Plan are operational.
- Adhere to schedules set forth in the Advanced Design and Production Technology Plan.
- Meet schedules to rebuild, qualify and certify Trident II pits by FY 2001 and develop intermediate pit production capability of 20 pits per year at the Los Alamos National Laboratory by 2007.
- Initiating, in FY 1999, material protection, control, and accountability upgrade at one DOE facility with weapons-usable material.
- No loss of U.S. origin nuclear materials in the U.S. and abroad from theft, loss, or illicit trafficking.
- Maintaining robust emergency response assets in accordance with Presidential Decision Directive 39, The Atomic Energy Act and Executive Order 12656 to ensure Departmental response to any nuclear weapons or radiological emergency in the United States or abroad.
- Continuing ongoing efforts of exercises, training and drills to improve response readiness to any possible weapons of mass destruction and terrorist threat contingency.
- Adhering to schedules for the safe and secure dismantlement of about 1000 nuclear warheads that have been removed from the U.S. nuclear weapons stockpile.

- Beginning Title I design for Stockpile Management Restructuring Initiative projects at the Savannah River Site and the Y-12 Plant to downsize production capacities.
- Completing resumption of Phase I of the Y-12 special nuclear material operations.

SIGNIFICANT ACCOMPLISHMENTS AND PROGRAM SHIFTS:

During **FY 1997**, the Stockpile Management program was carried out in accordance with the Stockpile Stewardship and Management Plan. Success was measured by the following performance elements:

- Completing the W87 Life Extension Program design assessment phase by June 1997. **Status: Successful.**
- Completing initial risk assessments for each enduring stockpile weapon by the end of FY 1997. **Status: Successful**
- Dismantling 556 weapons in FY 1997 without adversely impacting the environment, public safety and health. **Status: Partially Successful** due to shortfall of 58 from goal quantity.
- Meeting all DoD annual weapon alteration, modification and surveillance schedules. **Status: Partially successful** because we are slightly behind on nuclear component laboratory tests and nonnuclear systems laboratory tests due to Pantex operational issues associated with radiography and mass properties testing.
- Resuming Y-12 special nuclear materials operations necessary to support DoD requirements. **Status: Successful**
- Releasing the Stockpile Stewardship and Management Final Programmatic Environmental Impact Statement (PEIS) by December 1996. **Status: Successful**
- Completing the Record of Decision on the PEIS by December 1996. **Status: Successful**
- Completing Conceptual Design Reports (CDR's) for each nuclear weapons production facility that will be downsized by the end of FY 1997. **Status: Successful**
- Developing enhanced surveillance techniques. **Status: Successful.**
- Issuing a draft request for proposal for supplying tritium through the purchase or lease of commercial reactors or irradiation services by March 31, 1997. **Status: Successful**
- Making Departmental decision on the accelerator super conducting design options by March 1997. **Status: Successful**
- Approving the accelerator plant project baseline by September 1997 to be ready to start engineering design in October 1997. **Status: Successful**
- Approving the commercial reactor's tritium extraction facility project baseline by September 1997 to be ready to start engineering design by October 1997. **Status: Partially Successful** the final conceptual design report was issued in June 1997, independent verification and validation of the cost estimate was completed by July 1997. Critical Decision #2, Approval of Baseline, occured on October 20, 1997.
- Completing the multi-year program plan for the Advanced Manufacturing, Design and Production Technologies Program. **Status: Successful**
- Completing Exercise DIGIT PACE, the first ever nuclear weapons accident exercise in which DOE assumed responsibilities as the Lead Federal Agency. **Status: Successful**

CHANGES FROM FY 1998 AND FY 1999 HIGHLIGHTS

The FY 1999 request for Stockpile Management is approximately $10 million above the FY 1998 appropriation. Growth is reflected in Core Stockpile Management operations and maintenance activities (+$112 million) and construction (+$32 million). These increases will permit us to expand the Stockpile Management Restructuring Initiative (SMRI) initiated at two plants in FY 1998 to four plants in FY 1999. We will also continue activities to reestablish pit production capability and improve plutonium handling infrastructure at Los Alamos National Laboratory. The increase will also support capacity expansion for production of limited life components at the START I level. And funding is provided, transferred from the Office of Environmental Management, for the management of newly generated waste (+$11 million). Enhanced Surveillance reflects an increase of about $22 million to support tests for precision performance, standards and divergence in high explosives, advanced surveillance hydrodynamic tests, new radiography, gas analysis, and endoscopy diagnostics; advanced flight test hardware, plutonium and uranium stability and performance tests, materials surveillance tests and models, and systems surveillance tools and models. Offsetting these increases: a decrease of $100 million for the New Tritium Source reflecting a change in funding strategy associated with the anticipated 1998 decision for the primary and backup technologies; and, the transfer of responsibility for surveillance of materials located at former DP sites to the Office of Environmental Management.

Stockpile Management Restructuring Initiative

The Stockpile Management Restructuring Initiative will support the implementation of Departmental decisions related to production facility downsizing or relocation of missions consistent with the Stockpile Stewardship and Management Programmatic Environmental Impact Statement and the Tritium Supply and Recycling PEIS Records of Decision. The Record of Decision for restructuring the stockpile management complex was announced on December 19, 1996. It involves the downsizing in place of weapons assembly/disassembly and high explosives at the Pantex Plant, nonnuclear component fabrication at the Kansas City Plant, weapons secondary and case fabrication at the Y-12 Plant, consolidation of existing tritium operations at the Savannah River Site and the reestablishment of a small pit component fabrication capacity at the Los Alamos National Laboratory. In FY 1998, the Department will begin Title I design for the SMRI projects at the Savannah River Site and the Y-12 Plant to downsize production capacities. In FY 1999, the Department will focus on completing Title I and starting Title II Design for the SMRI projects at Savannah River and Y-12 and beginning the Title I Design for the SMRI projects at the Kansas City and Pantex Plants.

Pit Production and Plutonium Handling Infrastructure Improvements

At the Los Alamos National Laboratory, Defense Programs is re-instituting the war reserve pit production capability that has not existed since production activities ceased at the Rocky Flats Plant. The Pit Production Program consists of several parts: 1) a project to assure initially the capability to build war reserve pits has been captured; 2) a development and manufacturing period focused on meeting near term stockpile support requirements; 3) emplacement of a set manufacturing capacity for long term support of the stockpile; and 4) development of a contingency plan to allow the Department to move to higher rates of manufacturing should unforeseen requirements emerge in the future.

In FY 1998, sufficient work through the Pit Rebuild Program should be completed to verify that the Los Alamos National Laboratory has the capability to build war reserve pits. Work in FY 1999 will build on the FY 1998 program, and manufacturing of a specific quantity of pits will be initiated for certification and ultimate placement into the nuclear weapons stockpile. This manufacturing period will be continuous to assure "lot"

integrity for certification purposes, with small down time periods for facility maintenance and replacement of aged manufacturing equipment as required. The SMRI-Capability Maintenance Improvement Project would be the construction project for any facility improvements/upgrades beyond maintenance and replacement in-kind of equipment necessary to support the near-term manufacturing requirements.

In accordance with the Record of Decision on the Programmatic Environmental Impact Statement, the current objective is to establish a long term capacity for manufacturing up to 50 pits/year with a single shift of personnel. In the nearer turn we will achieve an annual capacity of 20 pits by 2007. A decision will be made on the specific capacity of manufacturing to be put in place at the Los Alamos National Laboratory and how best to achieve that capacity through discussions with the Department of Defense. Currently, it is envisioned that an outyear construction project, the Capability Maintenance Improvement Project, would provide necessary improvements to facilities to accommodate this manufacturing capacity.

Development of a contingency plan for larger quantity manufacturing has been placed on hold until sufficient information from the Pit Rebuild Program and subsequent manufacturing of war reserve pits clarifies the processes and specific equipment for manufacturing.

Production Capacity for START I

The FY 1999 request includes about $25 million to support capacity expansion for production of limited life components at the Kansas City Plant, Sandia National Laboratories, and Los Alamos National Laboratory, in order to support START I requirements or to return to START I levels in a timely manner once START II is ratified (hedge strategy). This $25 million includes $11 million in construction funding for facility modifications at SNL and to buy additional equipment required to support the additional capacity requirements at KC, SNL, and LANL. Specifically, it will support the design, construction, and installation of a third target loader within existing space of the Neutron Tube Target Loading Facility at LANL; rearranging existing space in, and adding additional space to, the current Reservoir Assembly Facility, and the procurement of additional production/process equipment at KC; and rearranging existing space within Building 870, adding additional space in adjacent building, and the procurement of additional production equipment at SNL. It also includes $14 million in operations and maintenance funding which provides project support and management for construction activities, NEPA Documentation, component prebuilds, installation of equipment, qualification and process prove-in, and additional manpower to support the increased production levels. This additional capacity is scheduled to be on line and qualified for war reserve production by FY 2003. In order to support START I requirements through FY 2003, neutron generators returned from the field will be recertified and reapplied for their remaining life and 544 neutron generators will be shipped from inventory at Pinellas.

Enhanced Surveillance The Enhanced Surveillance Program (ESP) is an integrated program among the nuclear weapons laboratories and the production plants to develop modern technologies for detecting degradation and predicting service lives of nuclear weapons and their materials and components. It is a continually evolving research and development effort with six major focus areas: material characterization and surveillance, materials aging model development, component surveillance and diagnostics, component performance models, enhanced systems testing, and system performance models. ESP is a logical step between the traditional surveillance program and anticipated weapon refurbishment. It will be closely coordinated and integrated with other initiatives such as the Accelerated Strategic Computing Initiative (ASCI) and Advanced Manufacturing, Design and Production Technologies (ADaPT). The program is projected to conclude in FY 2002.

Tritium The Secretary of Energy issued a Record of Decision for the Tritium Supply and Recycling Final Programmatic Environmental Impact Statement on December 5, 1995, That Record of Decision announced a plan to pursue a dual track production scenario to ensure an adequate tritium supply, which authorized work to 1) initiate the purchase of an existing commercial reactor or irradiation services with an option to purchase the reactor for conversion to a defense facility; and 2) design, build, and test critical components of an accelerator system for tritium production. the Department plans to select one of the tracks to serve as the primary source of tritium. The non-selected technology will be developed as a backup capability. For the CLWR, developing backup capability includes all elements of the CLWR project except actual irradiation in a commercial reactor and radioactive operations at the new tritium extraction facility. For the APT, developing backup capability includes design, development, and demonstration activities sufficient to allow the APT to be constructed in the future on relatively short notice.

The FY 1999 budget request includes $157 million to pursue the option that is selected. If the purchase of irradiation services from commercial light water reactors is selected as the primary option, the budget request will be sufficient to meet current requirements. If the Department selects accelerator production of tritium as the option, it will need to seek relief from the current target date for initiating new tritium production or seek additional funding.

Transfer of Materials Surveillance

Defense Programs currently has responsibility for U.S. origin nuclear materials stored at the Y-12 Plant and Oak Ridge National Laboratory, the Los Alamos National Laboratory (LANL), the Savannah River Site (SRS), the Hanford Site in Washington, and the Idaho Chemical Process Plant at the Idaho National Environmental Engineering Laboratory (INEEL). In the FY 1998 Energy & Water Appropriation Act, the Congress transferred responsibility for DP materials at the Rocky Flats Environmental Technology Site and the Fernald Environmental Management Project (FEMP) to the Office of Environmental Management (EM) in order to simplify the management and funding issues associated with environmental restoration activities at these sites. Consistent with this action, the Department is proposing to transfer responsibility for materials at other EM-landlord locations from Defense Programs to EM. These sites include SRS, Hanford, and INEEL. Also included in the proposed transfer are certain neutron source program materials at LANL.

New Departmental Clearance Policy

In FY 1999, the Department will divide responsibility for obtaining and maintaining security clearances. The Office of Security Affairs, which has been responsible for funding all Federal and contractor employee clearances, will pay for clearance of federal employees, both at headquarters and the field, as well as contractors at Headquarters. Defense Programs will now be responsible for clearances of contractors in the field, who directly support the DP mission, using program funds. This change in policy will enable program managers to make the decision as to how many and what level clearances are necessary for effective program execution.

Radiological/Nuclear Accident Response

In support of the Title XIV of the National Defense Authorization Act for FY 1997, DOE is tasked with carrying out training for the first responders

to weapons of mass destruction. DP administers the nuclear portion of this training. Also, in working with the National Security Council, DP will be increasing its efforts to provide a more rapid response to the National Capital Area in the event of a nuclear incident. Startup costs and equipment are requested for FY 1999. A total of $50 million is included in the FY 1999 budget request for these two initiatives.

FACILITY OPERATIONS:

Weapons Stockpile Management activities are conducted at four production facilities and three national laboratories. The production facilities include the Kansas City Plant- Kansas City, Missouri, operated by Allied Signal Aerospace; the Pantex Plant-Amarillo, Texas, operated by Mason & Hanger; the Y-12 Plant-Oak Ridge, Tennessee, operated by Lockheed Martin Energy Systems; and the Savannah River Site-Aiken, South Carolina, operated by Westinghouse Savannah River Company. The national laboratories include Sandia National Laboratories-Albuquerque, New Mexico, and Livermore, California, operated by Lockheed Martin; Los Alamos National Laboratory-Los Alamos, New Mexico; and Lawrence Livermore National Laboratory-Livermore, California, operated by the University of California. Other miscellaneous locations are funded through the Weapons Stockpile Management Program as noted on the funding by location table which is included in the Weapons Activities Executive Summary.

The nuclear weapons complex is expected to experience ongoing consolidation over the next 5 to 10 years. The goal of the consolidation effort is to configure into a complex that is smaller, more flexible, and much less expensive to operate. By the year 2001, nonnuclear manufacturing and processing capabilities will be consolidated at the Kansas City Plant, the Savannah River Site, the Los Alamos National Laboratory (LANL), and Sandia National Laboratories (SNL).

Four important Environmental Impact Statements (EIS) have recently been completed or are underway within the Department that will assist in defining alternatives that will lead to a consolidated nuclear weapons complex in the twenty-first century: 1) a Stockpile Stewardship and Management PEIS which was completed in early FY 1997 2) a Pantex Site-wide Environmental Impact Statement (SWEIS) which was completed in early FY 1997; 3) a LANL SWEIS is being prepared and the draft SWEIS should be distributed for comment in March 1998; and 4) a SNL SWEIS has begun with a Notice of Intent completed in May of 1997.

Beginning in FY 1998, the Stockpile Management Program began budgeting for and overseeing the operation of nuclear materials facilities at the Los Alamos National Laboratory previously supported through the Stockpile Stewardship Program and the Office of Nuclear Energy. As such, $21.4 million was transferred into the Stockpile Management budget request. This approach will allow for the alignment of funding and corporate management responsibility, and will ensure stability in managing the overall safety and operating envelope of these facilities.

Additionally, the pilot program which transferred responsibility and funding for the management of newly generated waste back to the generator (PSO) which was initiated in FY 1998 at the Savannah River Site and Kansas City Plant will be continued in FY 1999 and will be expanded to include the Pantex Plant.

FY 1999 CONGRESSIONAL BUDGET REQUEST
WEAPONS STOCKPILE MANAGEMENT
(Dollars in Thousands)

Funding Schedule:

Program Activity	FY 1997	FY 1998	FY 1999	$ Change	% Change
CORE STOCKPILE MANAGEMENT					
OPERATIONS & MAINTENANCE					
DIRECT MISSION PROGRAM					
WEAPONS PROGRAM	$ 295,795	$ 269,064	$ 307,389	$ 38,325	14%
PRODUCTION SUPPORT	248,905	245,592	260,739	15,147	6%
MATERIALS RECYCLE AND RECOVERY	32,658	48,077	56,713	8,636	18%
TRANSPORTATIONS SAFEGUARDS	66,400	69,000	70,000	1,000	1%
RECONFIGURATION/DOWNSIZING/PIT PRODUCTION	30,000	62,240	97,463	35,223	57%
Subtotal, DIRECT MISSION PROGRAM	$ 673,758	$ 693,973	$ 792,304	$ 98,331	14%
INFRASTRUCTURE PROGRAMS					
ENVIRONMENT, SAFETY AND HEALTH					
Environment	$ 20,908	$ 17,885	$ 17,135	$ (750)	-4%
Waste Management	3,334	11,617	22,891	11,274	97%
Health and Safety	65,780	71,039	85,612	14,573	21%
Subtotal, Environment, Safety, and Health	$ 90,022	$ 100,541	$ 125,638	$ 25,097	25%
SAFEGUARDS AND SECURITY	$ 84,691	$ 88,757	$ 94,917	$ 6,160	7%
UTILITIES, SITE PLANNING AND MAINTENANCE					
Site Planning and Project Management	$ 29,651	$ 25,551	$ 22,637	$ (2,914)	-11%
Utilities	39,923	42,550	41,313	(1,237)	-3%
Maintenance	117,419	152,626	106,887	(45,739)	-30%
Subtotal, Utilities, Planning & Maintenance	$ 186,993	$ 220,727	$ 170,837	$ (49,890)	-23%
MANAGEMENT AND ADMINISTRATION	$ 242,555	$ 261,399	$ 252,792	$ (8,607)	-3%
OTHER COSTS	61,759	35,033	41,933	6,900	20%
Subtotal, INFRASTRUCTURE PROGRAMS	$ 666,020	$ 706,457	$ 686,117	$ (20,340)	-3%

FY 1999 CONGRESSIONAL BUDGET REQUEST
WEAPONS STOCKPILE MANAGEMENT
(Dollars in Thousands)

Funding Schedule:

Program Activity	FY 1997		FY 1998	FY 1999	$ Change	% Change
CAPITAL EQUIPMENT	$ 42,631		$ 23,973	$ 49,479	$ 25,506	106%
GENERAL PLANT PROJECTS	7,091		12,902	21,485	8,583	67%
TOTAL, CORE MANAGEMENT O&M	$ 1,389,500		$ 1,437,305	$ 1,549,385	$ 112,080	8%
CONSTRUCTION LINE ITEMS	$ 90,581	a/	$ 83,370	$ 115,322	$ 31,952	38%
TOTAL, CORE STOCKPILE MANAGEMENT	$ 1,480,081		$ 1,520,675	$ 1,664,707	$ 144,032	9%
ENHANCED SURVEILLANCE						
OPERATIONS & MAINTENANCE	$ 53,762		$ 46,060	$ 67,307	$ 21,247	46%
ADVANCED MANUFACTURING, DESIGN AND PRODUCTION TECHNOLOGIES						
OPERATIONS & MAINTENANCE	$ 57,588		$ 73,272	$ 62,600	$ (10,672)	-15%
RADIOLOGICAL/NUCLEAR ACCIDENT RESPONSE						
OPERATIONS & MAINTENANCE	$ 75,800		$ 78,808	$ 77,600	$ (1,208)	-2%
CONSTRUCTION LINE ITEMS	$ 3,825		$ 0	$ 0	$ 0	0%
TOTAL, RAD'L/NUC ACCIDENT RESPONSE	$ 79,625		$ 78,808	$ 77,600	$ (1,208)	-2%

FY 1999 CONGRESSIONAL BUDGET REQUEST
WEAPONS STOCKPILE MANAGEMENT
(Dollars in Thousands)

Funding Schedule:

Program Activity	FY 1997	FY 1998	FY 1999	$ Change	% Change
TRITIUM SOURCE					
OPERATIONS & MAINTENANCE	$ 150,000	$ 183,340	$ 157,000 c/	$ (26,340)	-14%
CONSTRUCTION LINE ITEMS	$ 0	$ 77,515	$ 0 c/	$ (77,515)	-100%
TOTAL, TRITIUM SOURCE	$ 150,000	$ 260,855	$ 157,000	$ (103,855)	-40%
MATERIALS SURVEILLANCE					
OPERATIONS & MAINTENANCE	$ 107,820	$ 61,417	$ 21,911	$ (39,506)	-64%
TOTAL, WEAPONS STOCKPILE MANAGEMENT	$ 1,928,876	$ 2,041,087	$ 2,051,125	$ 10,038	0%
Adjustments	$ (45) a/	$ (1,870) b/	$ 0	$ 1,870	0%
TOTAL, NEW BUDGET AUTHORITY (Noncomparable)	$ 1,928,831	$ 2,039,217	$ 2,051,125	$ 11,908	1%

a/ Reflects application of $45,000 from the "Construction Project Overrun" reserve account to close out project 82-D-109, 155mm Artillery Fired Atomic Projectile Production Facilities, Y-12 Plant ($2,000) and 78-017-D Steam Plant Improvements, Y-12 Plant ($43,000).

b/ Reflects use of prior year balances to offset appropriation: $748,138 Core Stockpile Management O&M, $1,121,857 Core Stockpile Management prior year Construction.

c/ FY 1999 Tritium Source request includes $157 million to pursue the option that is selected. If the purchase of irradiation services from commercial light water reactors is selected as the primary option, the budget request will be sufficient to meet current requirements. If the accelerator production of tritium is chosen as the preferred option, the Department will need to seek relief from the current target date for initiating new tritium production or seek additional funding.

FY 1999 CONGRESSIONAL BUDGET REQUEST
WEAPONS STOCKPILE MANAGEMENT
CAPITAL OPERATING EXPENSES
(Detail and Crosscut Dollars in Thousands)

		Prior Years	Fiscal Year 1997	Fiscal Year 1998	Fiscal Year 1999	$ CHG	% CHG
OPERATIONS & MAINTENANCE							
Other (Line Item) Project-Related Costs (OPC)							
Conceptual Design Costs in Excess of $3 million							
97-D-122, Nuclear Materials Storage Fac. Renovation, LANL		$ 3,160	$ 0	$ 0	$ 0	$ 0	0%
98-D-126 Accelerator Production of Tritium, VL		14,020	20,830	0	0	0	0%
00-D-XXX Capability Maintenance and Improvements Project, LANL	a/	6,380	7,820	100	100	0	0%
OPC, not included above, for FY 1999 Requested Line Items	b/	18,094	2,682	8,832	16,562	7,730	88%
Subtotal, Other (Line Item) Project-Related Costs		$ 41,654	$ 31,332	$ 8,932	$ 16,662	$ 7,730	87%
Capital Equipment	c/						
Capital Equipment - Core Stockpile Management							
Basic Capital Equipment		$ 18,640	$ 32,506	$ 15,973	$ 28,829	$ 12,856	80%
Major Items of Equipment							
Replacement Aircraft (Cargo/Passenger), AL		0	0	0	9,000	9,000	100%
High Speed Tester, KC		0	0	0	2,200	2,200	100%
Automated Data Processing Equipment							
Mechanical CAD/CAM CAE Migration, KC		1,250	0	0	0	0	0%
Focused Factory Phase 5, KC		1,100	0	0	0	0	0%
Upgrade Unclassified GP System, KC		1,200	0	0	0	0	0%
FY96 Unclassified Computer Upgrade, PX		2,000	0	0	0	0	0%
Unclassified IBM/MVS Data Center Consolidation, Y-12		0	2,700	0	0	0	0%
Shop Floor Extension No. 2, PX		0	2,000	0	0	0	0%
DCS Upgrade, 223-H, SR		0	5,425	8,000	0	(8,000)	-100%

Weapons Stockpile Management, Capital Operating Expenses (Continued)

	Prior Years	Fiscal Year 1997	1998	1999	$ CHG	% CHG
Network Upgrade, Y-12	0	0	0	3,000	3,000	100%
Communications Modernization, PX	0	0	0	3,450	3,450	100%
Tech Support System, KC	0	0	0	3,000	3,000	100%
Subtotal, Capital Equipment - Core Stockpile Management	24,190	42,631	23,973	49,479	25,506	106%
Capital Equipment - Accident Response	8,100	4,075	7,000	7,000	0	0%
Capital Equipment - New Tritium Source	0	350	0	0	0	0%
Capital Equipment - Materials	1,000	2,387	0	321	321	100%
Subtotal, Capital Equipment	$ 33,290	$ 49,443	$ 30,973	$ 56,800	$ 25,827	83%
General Plant Projects (GPP) c/						
GPP - Core Stockpile Management	$ 10,000	$ 7,091	$ 12,902	$ 21,485	$ 8,583	67%
GPP - Accident Response	0	252	0	0	0	0%
GPP - New Tritium Source	0	0	0	0	0	0%
GPP - Materials	0	1,214	0	0	0	0%
Subtotal, General Plant Projects	$ 10,000	$ 8,557	$ 12,902	$ 21,485	$ 8,583	67%
TOTAL, CAPITAL OPERATING EXPENSES	$ 84,944	$ 89,332	$ 52,807	$ 94,947	$ 42,140	80%

a/ Conceptual design costs include Functional and Operational Requirements annual update costs.

b/ Other Project-Related Costs for line items requesting funding in FY 1999 but which do not have a Conceptual Design Report (CDR) that cost in excess of $3 millic

c/ Since funds are appropriated for Operations and Maintenance, which includes operating expenses, capital equipment (CE) and general plant projects (GPP), we no longer budget separately for CE and GPP. FY 1997 represents actual obligations for CE and GPP as reported by the contractors. FY 1998 and FY 1999 are estima based on FY 1997 actuals and the FY 1998 appropriation.

DEFENSE PROGRAMS STOCKPILE MANAGEMENT
FY 1999 CONGRESSIONAL BUDGET REQUEST
CONSTRUCTION PROJECT SUMMARY
(Dollars in Thousands)

Project Number	Project Title	Performance Measure	TEC	Previous Approp	FY 1997 Adjusted Approp	FY 1998 Adjusted Approp	FY 1999 Request	FY 2000 And Beyond
99-D-132	Nuclear Matl's Safeguards & Security Upgrades Project, Phase I, LANL	3.3.A	$ 60,746	$ 0	$ 0	$ 0	$ 9,700	$ 51,046
99-D-128	SMRI-Pantex Consolidation, PX	3.1.B	42,380	0	0	0	1,108	41,272
99-D-127	SMRI-Kansas City Plant II, KC	3.1.B	122,500	0	0	0	13,700	108,800
99-D-125	Replace Boilers & Controls, KC	3.1.A	14,000	0	0	0	1,000	13,000
99-D-123	Replace Mechanical Utility Systems, Y-12	3.1.A	7,600	0	0	0	1,900	5,700
99-D-122	Rapid Reactivation, VL	1.1.A	27,000	0	0	0	11,200	15,800
98-D-126	Accelerator Production of Tritium, VL	1.4.B	TBD	0	0	67,865	TBD	TBD
98-D-125	Tritium Extraction Facility, SRS	1.4.A	TBD	0	0	9,650	TBD	TBD
98-D-124	SMRI-Y-12 Consolidation, Y-12	3.1.B	42,500	0	0	6,450	10,700	25,350
98-D-123	SMRI-Tritium Facility Modernization & Consolidation, SRS	3.1.B	98,400	0	0	11,000	27,500	59,900

Project Number	Project Title	Performance Measure	TEC	Previous Approp	FY 1997 Adjusted Approp	FY 1998 Adjusted Approp	FY 1999 Request	FY 2000 And Beyond
97-D-124	Steam Plant Wastewater Treatment Facility Upgrade, Y-12	3.1.A	2,500	0	600	1,900	0	0
97-D-123	Structural Upgrades, KC	3.1.A	18,000	0	1,400	0	6,400	10,200
97-D-122	Nuclear Materials Storage Facility Renovation, LANL	3.3.A	45,292	0	4,000	9,200	9,164	0
97-D-121	Consolidated Pit Packaging System, PX	3.1.A	870	0	870	0	0	0
96-D-125	Washington Measurements Operations Facility, AAFB, MD	3.5.C	4,725	900	3,825	0	0	0
96-D-123	Retrofit Chillers, Y-12	3.1.A	12,800	3,100	7,000	2,700	0	0
96-D-122	Sewage Treatment Upgrade, PX	3.1.A	11,300	600	100	6,900	3,700	0
95-D-122	Sanitary Sewer Upgrades, Y-12	3.1.A	32,000	8,500	10,900	12,600	0	0
95-D-102	a/ CMR Upgrades Project, LANL	3.1.A	174,100	0	0	5,000	16,000	85,360
94-D-127	Emergency Notification System, PX	3.1.A	6,200	4,000	2,200	0	0	0
94-D-125	Upgrade Life Safety, KC	3.1.A	14,700	7,500	5,200	2,000	0	0
94-D-124	Hydrogen Fluoride Supply System, Y-12	3.1.A	26,300	20,000	4,900	1,400	0	0

Project Number	Project Title	Performance Measure	TEC	Previous Approp	FY 1997 Adjusted Approp	FY 1998 Adjusted Approp	FY 1999 Request	FY 2000 And Beyond
93-D-123	Nonnuclear Reconfiguration, Complex 21, VL	3.1.A	164,552	150,065	14,487	0	0	0
93-D-122	Life Safety Upgd, Y-12	3.1.A	32,450	19,900	7,200	2,100	3,250	0
92-D-126	Replace Emergency Notification System, VL	3.1.A	28,800	25,600	0	3,200	0	0
88-D-123	Security Enhancements, PX	3.1.A	125,000	115,261	9,739	0	0	0
88-D-122	FCAP, VL	3.1.A	398,724	357,864	21,940	18,920	0	0
82-D-109	155mm Artillery Fired Atomic Projectile Production Facility, Y-12	3.1.A	28,085	28,083	2 b/	0	0	0
78017D	Steam Plant Improvements, Y-12	3.1.A	23,554	23,511	43 c/	0	0	0
TOTAL,	Weapons Stockpile Management Construction		$ 1,565,078	$ 764,884	$ 94,406	$ 160,885	$ 115,322	$ 416,428

a/ Funding for the CMR Upgrades Project was transferred to the Stockpile Management decision unit beginning in FY 1998.

b/ Represents use of prior year balances necessary to financially close line item 82-D-109, 155mm Artillery Fired Atomic Projectile Production Facility, Y-12.

c/ Represents use of prior year balances necessary to financially close line item 78017D, Steam Plant Improvements, Y-12.

Weapons Stockpile Management
Core Stockpile Management

The Core Stockpile Management operations and maintenance program includes procurement of materials (exclusive of nuclear materials); fabrication and assembly of nuclear weapons and weapon components; lifetime surety, maintenance and reliability assessments of the enduring stockpile; weapon dismantlement and disposal; maintenance of a production capability; development and operation of safe, secure systems for transporting nuclear weapons and weapon components; preparation, issuance, and maintenance of field training manuals; and facility startup and standby operations.

PROGRAM GOALS:

- Fully support the warhead dismantlement/disposal and storage program
- Support modifications, repairs and retrofit programs
- Support the limited life component exchange program
- Provide quality evaluations, special testing, and surveillance of nuclear weapon systems
- Acquire a pit rebuild capability and limited capacity to meet near-term stockpile requirements
- Maintain and improve upon essential technologies and capabilities
- Maintain the weapons complex infrastructure at a level necessary to accomplish mission requirements

CHANGE FROM FY 1998:

The FY 1999 program funding for Core Stockpile Management reflects an 8% increase over the FY 1998 Appropriation. This request reflects increases in the following areas: (1) (+$40.4 million) assurance of the capability to build war reserve pits, to initiate the manufacturing of quantity pits for certification and ultimate placement into the nuclear weapons stockpile, to support facility maintenance and equipment procurement in TA-55 to provide initial capacity, and to continue design and develop work for larger pit production capacity, (2) (+$48.0 million) directive schedule requirements driven by capacity expansion for neutron generator production at Sandia National Laboratories to support START I levels for limited life components, the first production unit and ramp up to steady state production for the W87 Life Extension Program, and increased surveillance efforts, (3) (+$12.8 million) to support the expansion of the Stockpile Management Restructuring Initiative initiated at two plants in FY 1998 to four plants in FY 1999, and (4) (+$10.8 million) the transfer of responsibility for newly generated waste at the Pantex Plant from the Office of Environmental Management.

FUNDING LEVELS:

$ 1,480,081	$ 1,520675	$ 1,664,707

Core Stockpile Management - Direct Mission and Infrastructure Programs Summary

WEAPONS PROGRAM: The Weapons Program includes the direct activities necessary to meet all directive schedules for Stockpile Maintenance, Stockpile Evaluation, Containers, and Dismantlement as depicted in the Nuclear Weapons Stockpile Plan. Subelements include: **Stockpile Maintenance** efforts include limited life component exchange, maintenance, and retrofit activities on various weapon systems in the enduring stockpile. **Stockpile Evaluation** activities include new material laboratory tests, new material flight tests, stockpile laboratory tests, stockpile flight tests, quality evaluations, special testing, and surveillance of weapon systems. **Container** activities include research, development, test and evaluation, production/procurement, certification testing and fielding, and decontamination and disposal. **Dismantlement** includes all activities for weapons associated with retirement, disassembly, component characterization, and disposal and reclamation of materials and components; the engineering, development, testing, certification, procurement, and refurbishment of containers required for interim storage; and the staging and storage of weapons, components, and materials awaiting dismantlement.

FY 1997 PERFORMANCE AGREEMENT:

Completing the W87 Life Extension Program design assessment phase by June 1997. **Status: Successful.**

Completing initial risk assessments for each enduring stockpile weapon by the end of FY 1997. **Status: Successful**

Dismantling 556 weapons in FY 1997 without adversely impacting the environment, public safety and health. **Status: Partially Successful** due to shortfall of 58 from goal quantity.

Meeting all DoD annual weapon alteration, modification and surveillance schedules. **Status: Partially successful** because we are slightly behind on nuclear component laboratory tests and nonnuclear systems laboratory tests due to Pantex operational issues associated with radiography and mass properties testing.

CHANGE FROM FY 1998:

The increase in the FY 1999 Weapons Program is driven by Stockpile Maintenance and Evaluation activities. More specifically, the Stockpile Maintenance activities are driven by the requirements associated with capacity expansion at the Sandia National Laboratories to produce neutron generators consistent with START I requirements, the first production unit of the W87 Peacekeeper Life Extension Program and the ramp-up to steady state production efforts, and reservoir replacement for the W76 Trident T I and W88 Trident II. The increase in Stockpile Evaluation is aimed at reducing the backlog in surveillance and component testing that resulted from the Nonnuclear Reconfiguration program. Many of these activities had been conducted at the Mound Plant and were relocated to the Savannah River Site and the Los Alamos National Laboratory. The Reconfiguration of the weapons complex interrupted the normal flow of activities and resulted in this backlog. It will support increases in primary testing at LANL, detonator testing at the nuclear design laboratories, gas reservoir testing at the Savannah River Site and the backlog of flight test for the W62 Minuteman I, W78 Minuteman II, and W88. These increases are partially offset by a decease in funding for dismantlement activities associated with the reduced number of dismantlements planned for FY 1999. Approximately 1,000 dismantlements are scheduled for FY 1998 and 500 for FY 1999. FY 1999 efforts will focus on completion of the W69 SRAM and W79 8 inch AFAP, as well as the continuation of the W56.

PERFORMANCE MEASURES ($ Thousands)

Weapons Program	FY 1997	FY 1998	FY 1999
Objective 1: Maintain confidence in the safety, reliability, and performance of the nuclear weapons stockpile without nuclear testing.			
Performance Measure: *Meet all scheduled deliveries for stockpile maintenance, surveillance, assessment, and as appropriate, refurbish specific warheads as set forth in the classified Production and Planning Directive.*			
- Deliveries for stockpile maintenance (LLCE components support).	$ 40,171	$ 43,807	$ 65,523
- Deliveries for stockpile refurbishment.	$ 94,168	$ 73,538	$ 103,226
Performance Measure: *Certify that standards for the safety, reliability, and performance of the nuclear weapons stockpile are met.*			
- Conduct new material laboratory tests/stockpile laboratory tests.	$ 12,824	$ 22,324	$ 21,952
- Conduct new material flight tests/stockpile flight tests.	$ 25,496	$ 33,008	$ 25,019
- Conduct surveillance testing.	$ 45,012	$ 25,043	$ 42,383
Objective 2: Replace nuclear testing with a science-based Stockpile Stewardship and Management Program.	$ 0	$ 0	$ 0
Objective 3: Ensure the vitality of DOE's national security enterprise.			
Other transportation and logistics capabilities:			
- Support Container Requirements	$ 21,801	$ 18,043	$ 16,067
Objective 4: Reduce nuclear weapons stockpiles and the proliferation threat caused by possible diversion of nuclear materials.			
Performance Measure: *Adhere to schedules for the safe and secure dismantlement of about 500 nuclear warheads that have been removed from the U.S. nuclear weapons stockpile.*			
- Dismantlement of retired weapons	$ 28,829	$ 22,066	$ 8,373
- Characterization and disposition of components from dismantlement.	$ 3,829	$ 6,973	$ 5,338
- Long term storage of nuclear materials and components.	$ 17,770	$ 19,336	$ 15,953
- Support Nuclear Explosives Safety Studies	$ 5,895	$ 4,926	$ 3,555

TOTAL, Weapons Program	**$ 295,795**	**$ 269,064**	**$ 307,389**

PRODUCTION SUPPORT: Production Support activities include quality and production supervision and control, Sandia National Laboratories quality assurance activities, production and process engineering, facility startup and standby, and field engineering. Supports the Stockpile Maintenance, Evaluation, Dismantlement, Materials Recycle and Recovery, and Advanced Manufacturing, Design and Production Technologies Programs.

CHANGE FROM FY 1998:

Increases over FY 1998 occur mainly at the Y-12 Plant, Los Alamos National Laboratory (LANL) and the Savannah River Site. The increase at the Y-12 Plant is driven by the scheduled resumption of Enriched Uranium Operations scheduled for February 1999 and the ramp-up to steady state production efforts for the W87 Life Extension Program. The increase at LANL is driven by pit production efforts and the increase at the Savannah River Site is driven by increased directive workload requirements in terms of reservoir loading, reclamation and surveillance. The decrease at Pantex over the budget period reflects the completion of efforts in facility startup and readiness in FY 1997 and the reclassification of functions such as packaging and transportation.

PERFORMANCE MEASURES ($ Thousands)

Production Support	FY 1997	FY 1998	FY 1999
Objective 1: Maintain confidence in the safety, reliability, and performance of the nuclear weapons stockpile without nuclear testing.	$ 0	$ 0	$ 0
Objective 2: Replace nuclear testing with a science-based Stockpile Stewardship and Management Program.	$ 0	$ 0	$ 0

Objective 3: Ensure the vitality of DOE's national security enterprise. **Performance Measure:** *All facilities required for successful achievement of the Stockpile Stewardship and Management Plan are operational.*			
- Maintain infrastructure and plant at Kansas City Plant	$ 30,016	$ 36,525	$ 37,167
- Maintain infrastructure and plant at Los Alamos National Laboratory	$ 54,000	$ 54,000	$ 59,876
- Maintain infrastructure and plant at Pantex Plant	$ 27,236	$ 16,945	$ 15,953
- Maintain infrastructure and plant at Sandia National Laboratories	$ 49,869	$ 70,059	$ 71,383
- Maintain infrastructure and plant at Savannah River Site	$ 19,625	$ 18,807	$ 21,216
- Maintain infrastructure and plant at Y-12 Plant	$ 68,159	$ 49,256	$ 55,144
Objective 4: Reduce nuclear weapons stockpiles and the proliferation threat caused by possible diversion of nuclear materials.	$ 0	$ 0	$ 0
TOTAL, Production Support	**$ 248,905**	**$ 245,592**	**$ 260,739**

MATERIALS RECYCLE AND RECOVERY: This program includes activities associated with recycle and recovery of plutonium, enriched uranium, and tritium from fabrication and assembly operations, limited life components, and dismantlement of weapons and components. It also involves the process in recycling and purifying the above materials to meet specifications for safe, secure, and environmentally acceptable storage, including meeting the directive schedule for tritium reservoir refills. In addition, this program includes efforts related to the development and implementation of new processes or improvements to existing processes for fabrication and recovery operations for plutonium and uranium, and for material stabilization, conversion, and storage. These activities are largely conducted at the Los Alamos National Laboratory, Savannah River Site, and the Y-12 Plant.

FY 1997 PERFORMANCE AGREEMENT: Resuming Y-12 special nuclear materials operations necessary to support DoD requirements. **Status: Successful**

CHANGE FROM FY 1998:
The increase over FY 1998 is driven by increased directive workload requirements in terms of reservoir loading, reclamation and surveillance at SR and from expansion of the nuclear processing technology base and uranium and plutonium stabilization activities at LANL.

PERFORMANCE MEASURES ($ Thousands)

Materials Recycle and Recovery	FY 1997	FY 1998	FY 1999
Objective 1: Maintain confidence in the safety, reliability, and performance of the nuclear weapons stockpile without nuclear testing. **Performance Measure:** *Meet all scheduled deliveries for stockpile maintenance, surveillance, assessment, and as appropriate, refurbish specific warheads as set forth in the classified Production and Planning Directive.* - Deliveries for stockpile maintenance (LLCE components support).	$ 5,463	$ 6,970	$ 9,116
Objective 2: Replace nuclear testing with a science-based Stockpile Stewardship and Management Program.	$ 0	$ 0	$ 0
Objective 3: Ensure the vitality of DOE's national security enterprise. **Performance Measure:** *All facilities required for successful achievement of the Stockpile Stewardship and Management Plan are operational.* - Maintain infrastructure and plant at Los Alamos National Laboratory - Maintain infrastructure and plant at Y-12 Plant	$ 10,804 $16,391	$ 2,603 $ 38,504	$ 9,972 $ 37,625
Objective 4: Reduce nuclear weapons stockpiles and the proliferation threat caused by possible diversion of nuclear materials.	$ 0	$ 0	$ 0
TOTAL, Materials Recycle and Recovery	**$ 32,658**	**$ 48,077**	**$ 56,713**

TRANSPORTATION SAFEGUARDS: The mission of the Transportation Safeguards Program is to provide safe, secure movement of nuclear weapons, strategic quantities of Special Nuclear Material, selected non-nuclear weapon components, and limited life components to and from military locations and between nuclear complex facilities within the continental United States. Supports the level of weapon deliveries and stockpile modifications specified in the Production and Planning Directive. Provides operational fleet vehicles and communications systems through repair and refurbishment, and modifications to enhance safety and security. This program element does not include the cost for the couriers and other administrative personnel (Federal Employees) who execute this program. These costs include salaries and benefits, travel, and training, and are funded in the Weapons Activities Program Direction decision unit.

CHANGE FROM FY 1998:

The increase in operations, maintenance and repair of transportation fleet and communication systems is driven by the procurement of a new data encryption system, the procurement and modification of up to 30 new escort vehicles, the relocation of the South Carolina relay station, and an aggressive vehicle maintenance program.

PERFORMANCE MEASURES ($ Thousands)

Transportation Safeguards	FY 1997	FY 1998	FY 1999
Objective 1: Maintain confidence in the safety, reliability, and performance of the nuclear weapons stockpile without nuclear testing.	$ 0	$ 0	$ 0
Objective 2: Replace nuclear testing with a science-based Stockpile Stewardship and Management Program.	$ 0	$ 0	$ 0
Objective 3: Ensure the vitality of DOE's national security enterprise. **Other transportion and logistics capabilities:** - Meet schedule for production of the SafeGuards Transporter. - Operations, maintenance and repair of transportation fleet and communications systems	 $ 15,300 $ 51,100	 $ 15,400 $ 53,600	 $ 10,100 $ 59,900
Objective 4: Reduce nuclear weapons stockpiles and the proliferation threat caused by possible diversion of nuclear materials.	$ 0	$ 0	$ 0
TOTAL, Transportation Safeguards	**$ 66,400**	**$ 69,000**	**$70,000**

NONNUCLEAR RECONFIGURATION/ DOWNSIZING/PIT PRODUCTION supports the transfer and consolidation of 25 activities from the Mound, Pinellas, and Rocky Flats Plants to the Kansas City Plant, Savannah River Site, LANL, and SNL. This includes the transfer and the requalification of 25 technologies and processes at the various receiver sites. This program, as currently scoped, is planned to conclude in FY 2001. This activity also includes operating expense support for the Stockpile Management Restructuring Initiative. Operating expense funded activities include project support, component prebuilds, mission transfers, quality and process prove-in, and facility shutdown. This budget category also includes operating support for the reestablishment of war reserve pit production capability at LANL and the initiation of the manufacturing of quantity pits for certification and ultimate placement into the nuclear weapons stockpile.

FY 1997 PERFORMANCE AGREEMENT:

Releasing the Stockpile Stewardship and Management Final Programmatic Environmental Impact Statement (PEIS) by December 1996. **Status: Successful**

Completing the Record of Decision on the PEIS by December 1996. **Status: Successful**

CHANGE FROM FY 1998:

The net increase over FY 1998 results from the following changes: a decrease of $17.8 million in Nonnuclear Reconfiguration due to program progression and the completion of the majority of the transfer activities required to reconfigure the weapons complex; an increase of $12.8 million for downsizing efforts associated with the expansion of complex downsizing efforts, initiated at two plants in FY 1998, to all four of the traditional production plants in FY 1999; an increase for pit production activities which will support the development of processes, establishment of equipment and intermediate manufacturing of up to 20 pits per year for certification and ultimate placement into the nuclear weapons stockpile. It will also support the initiation of a three year program supporting facility maintenance and equipment procurement for TA-55, LANL, and the continuation of design work for larger capacity production of pits.

PERFORMANCE MEASURES ($ Thousands)

Nonnuclear Reconfiguration/Downsizing/Pit Production	FY 1997	FY 1998	FY 1999
Objective 1: Maintain confidence in the safety, reliability, and performance of the nuclear weapons stockpile without nuclear testing.	$ 0	$ 0	$ 0
Objective 2: Replace nuclear testing with a science-based Stockpile Stewardship and Management Program.	$ 0	$ 0	$ 0

Objective 3: Ensure the vitality of DOE's national security enterprise. **Performance Measure:** *All facilities required for successful achievement of the Stockpile Stewardship and Management Plan are operational.*			
- Relocate and qualify nonnuclear production processes at Kansas City Plant	$ 12,025	$ 4,533	$ 881
- Relocate and qualify nonnuclear production processes at Los Alamos National Laboratory	$ 9,441	$ 9,467	$ 2,300
- Relocate and qualify nonnuclear production processes at Sandia National Laboratories	$ 3,291	$ 400	$ 0
- Relocate and qualify nonnuclear production processes at Savannah River Site	$ 5,243	$ 6,600	$ 0
Performance Measure: *The Stockpile Management Restructuring Initiative is on schedule to downsize and modernize future production capabilities.*			
- Consolidate functions and reduce the operating footprint at KC Plant	$ 0	$ 0	$ 2,100
- Consolidate functions and reduce the operating footprint at the Pantex Plant	$ 0	$ 3,911	$ 3,797
- Consolidate Tritium processes at the Savannah River Site	$ 0	$ 3,000	$ 2,950
- Consolidate functions and reduce the operating footprint at the Y-12 Plant	$ 0	$ 7,909	$ 18,800
Performance Measure: *Meet schedules to rebuild, qualify and certify Trident II pits by FY 2001 and develop intermediate pit production capability of 20 pits per year at the Los Alamos National Laboratory by 2007.*			
- Produce a single WR pit per year at LANL, starting in FY 1998 and provide up to 10 pits annually into the stockpile beginning in FY 2001 to meet near-term destructive testing replacement requirements	$ 0	$ 22,000	$ 37,000
- Support facility maintenance and equipment procurement in TA-55	$ 0	$ 0	$ 22,400
- Continue design work to develop intermediate pit production capability of 20 pits per year by 2007:	$ 0	$ 4,420	$ 7,235
Objective 4: Reduce nuclear weapons stockpiles and the proliferation threat caused by possible diversion of nuclear materials.	$ 0	$ 0	$ 0
TOTAL, Nonnuclear Reconfiguration/Downsizing/Pit Production	**$ 30,000**	**$ 62,240**	**$97,463**

ENVIRONMENT, SAFETY, AND HEALTH PROGRAMS: The Environment Program consists of implementing and maintaining a base program to support compliance with environmental laws, such as federal, state and local laws, and DOE Orders. The Waste Management Program maintains compliance with related federal, state, and local laws, and DOE Orders, and includes waste management activities at the weapons facilities not specifically provided for in the Environmental Restoration/Waste Management Five Year Plan. The Safety and Health Program supports activities directed to the protection of the safety and health of the public and employees, as required by federal, state, regional and local law or regulation, Executive Orders, and DOE Orders.

PROGRAM GOALS/ONGOING ACTIVITIES:

- Protection of air and water quality by complying with the Clean Air, Clean Water, and the Safe Drinking Water Acts
- Carry on a safety program that includes fire protection engineering, industrial safety, nuclear safety, risk management, configuration management, and administration
- Perform analysis for waste stream characterizations and support for recycling programs
- Operation of Burning Grounds (Pantex Plant)
- Control of solid and hazardous waste generation
- Compliance with the Comprehensive Environmental Response and Compensation, and Liability Act (CERCLA); and the Resource Conservation and Recovery Act (RCRA) of 1976
- Support of site-wide Environmental Impact Statements (EIS)
- Characterization, certification, and packaging of waste; bagging and removing of radioactive waste; certifying, labeling, and shipping of waste
- Waste Minimization, Pollution Prevention, and management and disposal of sanitary waste
- Ensure compliance with applicable laws and regulations (OSHA, DOE Orders, etc.)
- Ensure the safety and health of the public and of facility employees
- Ensure a health program that encompasses, industrial hygiene, radiological protection, occupational medicine, and administration
- Provide emergency preparedness activities and fire protection at the sites
- Maintain industrial hygiene, industrial safety, occupational medical services, radiological protection programs
- Provide nuclear safety and transportation support function

CHANGE FROM FY 1998:

The increase over FY 1998 is driven by the Safety and Health Programs at LANL to support Integrated Safety Management for TA-55 and the Chemistry & Metallurgy Research Building and the transfer of responsibility from the Office of Environmental Management for newly generated waste at the Pantex Plant. The funding held at Headquarters under this category is an initial allocation for continuation of the waste management pilot projects initiated in FY 1998 at KC and SRS. This funding will be allocated to the production sites for waste management activities upon the receipt

of further information associated with the pilot projects at those sites in FY 1998.

PERFORMANCE MEASURES:

Environment, Safety, and Health Programs *($ Thousands)*	FY 1997	FY 1998	FY 1999
Objective 1: Maintain confidence in the safety, reliability, and performance of the nuclear weapons stockpile without nuclear testing	$ 0	$ 0	$ 0
Objective 2: Replace nuclear testing with a science-based Stockpile Stewardship and Management Program	$ 0	$ 0	$ 0
Objective 3: Ensure the vitality of DOE's national security enterprise **PERFORMANCE MEASURE:** *All facilities required for successful achievement of the Stockpile Stewardship and Management Plan are operational.*			
- Maintain infrastructure and plant at Kansas City Plant	$ 5,818	$ 13,982	$ 7,101
- Maintain infrastructure and plant at Los Alamos National Laboratory	$ 7,450	$8,006	$ 23,823
- Maintain infrastructure and plant at Pantex Plant	$ 28,584	$ 29,695	$ 41,997
- Maintain infrastructure and plant at Sandia National Laboratories	$ 4,126	$ 6,384	$ 5,500
- Maintain infrastructure and plant at Savannah River Site	$11,322	$ 9,868	$ 7,756
- Maintain infrastructure and plant at Y-12 Plant	$ 32,722	$ 32,606	$ 31,811
- Headquarters	$ 0	$ 0	$ 7,650
Objective 4: Reduce nuclear weapons stockpiles and the proliferation threat caused by possible diversion of nuclear materials	$ 0	$ 0	$ 0
TOTAL, Environment, Safety, and Health Programs	**$ 90,022**	**$ 100,541**	**$ 125,638**

SAFEGUARDS AND SECURITY: The Safeguards and Security Program assures protection of all classified material, vital facilities, government property and plant personnel; to provide and operate the protective force program; and to administer the Nuclear Material Control and Accountability Program. In FY 1999, responsibility for obtaining and maintaining security clearances for contractors employees is also included in this category. Detailed below are continuing measurable performance activities.

PROGRAM GOALS/ONGOING ACTIVITIES:

- Maintain and operate a protective force program
- Provide adequate levels of security education for employees
- Administer the Personnel Security Assistance Program
- Design, operate, and support site physical security systems
- Administer technical surveillance countermeasures and TEMPEST programs
- Support DOE declassification initiative
- Ensure accountability of Special Nuclear Material and other nuclear material
- Support DOE declassification and "common badge" initiative
- Support the review of DP initiatives to assure appropriate safeguards and security is considered in design and implementation
- Provide Material Access Area (MAA) physical security
- Provide for contractor clearances

CHANGE FROM FY 1998:

The change between FY 1998 and FY 1999 results from the Departmental policy change associated with security clearances for contractor employees. The funding included under Headquarters for FY 1999 is an initial allocation to support field contractor clearances pending further review of actual requirements within Stockpile Management.

PERFORMANCE MEASURES ($ Thousands)

Safeguards and Security	FY 1997	FY 1998	FY 1999
Objective 1: Maintain confidence in the safety, reliability, and performance of the nuclear weapons stockpile without nuclear testing.	$ 0	$ 0	$ 0
Objective 2: Replace nuclear testing with a science-based Stockpile Stewardship and Management Program.	$ 0	$ 0	$ 0

Objective 3: Ensure the vitality of DOE's national security enterprise. **PERFORMANCE MEASURE:** *All facilities required for successful achievement of the Stockpile Stewardship and Management Plan are operational.*			
- Maintain infrastructure and plant at Kansas City Plant	$ 5,469	$ 7,301	$ 6,607
- Maintain infrastructure and plant at Los Alamos National Laboratory	$ 13,677	$ 19,480	$ 20,485
- Maintain infrastructure and plant at Pantex Plant	$ 33,208	$ 29,548	$ 31,777
- Maintain infrastructure and plant at Sandia National Laboratories	$ 2,768	$ 3,066	$ 3,159
- Maintain infrastructure and plant at Savannah River Site	$ 2,787	$ 2,454	$ 2,119
- Maintain infrastructure and plant at Y-12 Plant	$ 26,782	$ 26,908	$ 25,562
- Security investigations for contractor personnel in the field who directly support the DP mission	$ 0	$ 0	$ 5,208
Objective 4: Reduce nuclear weapons stockpiles and the proliferation threat caused by possible diversion of nuclear materials.	$ 0	$ 0	$ 0
TOTAL, Safeguards and Security	**$ 84,691**	**$ 88,757**	**$ 94,917**

SITE PLANNING, UTILITIES, and MAINTENANCE: The Site Planning Program provides space management and facility planning with focus on DOE's initiative consolidation and downsizing of the weapons complex, administers the energy management program in support of energy conservation, and provides support for facility engineering services. The Maintenance Program provides preventive, corrective, and emergency maintenance of facilities and associated equipment. The Utilities Program supports the procurement of utility services, the facility operation, and maintenance for utility consumption at all sites.

PROGRAM GOALS/ONGOING ACTIVITIES:

- Provide comprehensive Site Planning
- Administer the energy management program to meet the DOE goal of 30% reduction of energy consumption by FY 2005
- Prepare Conceptual Design Reports, construction project data sheets, and cost estimates
- Develop design criteria for general project planning, tracking, reporting, and management
- Support planning for consolidation and downsizing of the weapons complex
- Perform plant engineering services
- Provide technical engineering support for critical safety systems and configuration control of components and subsystems

- Provide corrective and preventative maintenance services
- Provide support for downsizing efforts
- Begin effort to minimize on-site materials needed for maintenance
- Incorporate more predictive maintenance techniques in day-to-day operations
- Execute preventive maintenance on all site systems and equipment and repair of all failing or malfunctioning systems and equipment
- Administer and manage GSA contract and provide preventive and corrective maintenance on over 350 vehicles (Pantex)
- Procure utility services at all sites and manage utility operation and resources associated with utility systems
- Develop, maintain and prepare to implement utility plans to meet future load requirements

CHANGE FROM FY 1998:

The change from FY 1998 is driven by a nonrecurring funding increase of $85 million in FY 1998 for backlogged production plant maintenance and modernization.

*PERFORMANCE MEASURES **($ Thousands)***

Site Planning, Utilities, and Maintenance	FY 1997	FY 1998	FY 1999
Objective 1: Maintain confidence in the safety, reliability, and performance of the nuclear weapons stockpile without nuclear testing.	$ 0	$ 0	$ 0
Objective 2: Replace nuclear testing with a science-based Stockpile Stewardship and Management Program.	$ 0	$ 0	$ 0
Objective 3: Ensure the vitality of DOE's national security enterprise.			
PERFORMANCE MEASURE: *All facilities required for successful achievement of the Stockpile Stewardship and Management Plan are operational.*			
- Maintain infrastructure and plant at Kansas City Plant	$ 44,577	$ 58,782	$ 45,797
- Maintain infrastructure and plant at Los Alamos National Laboratory	$ 6,316	$ 6,322	$ 8,580
- Maintain infrastructure and plant at Pantex Plant	$ 45,654	$ 49,505	$ 32,912
- Maintain infrastructure and plant at Sandia National Laboratories	$ 8,205	$ 8,947	$ 9,646
- Maintain infrastructure and plant at Savannah River Site	$ 21,725	$ 22,709	$ 22,300
- Maintain infrastructure and plant at Y-12 Plant	$ 60,516	$ 74,462	$ 51,602

Objective 4: Reduce nuclear weapons stockpiles and the proliferation threat caused by possible diversion of nuclear materials.	$ 0	$ 0	$ 0
TOTAL, Site Planning, Utilities, and Maintenance	**$ 186,993**	**$ 220,727**	**$ 170,837**

MANAGEMENT AND ADMINISTRATION: The Management and Administration Program provides for those activities associated with general management and administrative functions which include: information outreach, information services, taxes, human resources, chief financial officer, procurement, legal support, logistic support, administrative support, quality assurance, management fees, executive direction, and laboratory directed research and development.

PROGRAM GOALS/ONGOING ACTIVITIES:

- Maintain appropriate program in human resources
- Maintain a public relations, information outreach program
- Provide computer services, telecommunications, general purchasing and transportation services
- Provide financial services (including taxes)
- Maintain training program
- Support legal staff, site management, operational surety and quality programs, and award fees
- Provide support to the Laboratory Directed R&D activities
- Support the Amarillo National Resource Center for Plutonium

CHANGE FROM FY 1998:

The change from FY 1998 is driven by a one time increase in funding in FY 1998 for Information Systems at the Kansas City Plant and reduced M&A allocations at the Sandia National Laboratories consistent with efforts to reduce overhead costs over the past several years. The increase at LANL reflects an increased allocation of overhead consistent with the overall site increase for Stockpile Management activities driven mainly by support for pit production activities.

PERFORMANCE MEASURES ***($ Thousands)***

Management and Administration	FY 1997	FY 1998	FY 1999
Objective 1: Maintain confidence in the safety, reliability, and performance of the nuclear weapons stockpile without nuclear testing.	$ 0	$ 0	$ 0
Objective 2: Replace nuclear testing with a science-based Stockpile Stewardship and Management Program.	$ 0	$ 0	$ 0
Objective 3: Ensure the vitality of DOE's national security enterprise. **PERFORMANCE MEASURE:** *All facilities required for successful achievement of the Stockpile Stewardship and Management Plan are operational.*			
- Maintain infrastructure and plant at Kansas City Plant	$ 65,017	$ 81,439	$ 70,290
- Maintain infrastructure and plant at Los Alamos National Laboratory	$ 26,575	$ 26,947	$ 33,079
- Maintain infrastructure and plant at Pantex Plant	$ 50,345	$ 47,368	$ 48,915
- Maintain infrastructure and plant at Sandia National Laboratories	$ 47,039	$ 47,115	$ 41,289
- Maintain infrastructure and plant at Savannah River Site	$ 4,458	$ 2,437	$ 2,399
- Maintain infrastructure and plant at Y-12 Plant	$ 49,121	$ 56,093	$ 56,820
Objective 4: Reduce nuclear weapons stockpiles and the proliferation threat caused by possible diversion of nuclear materials.	$ 0	$ 0	$ 0
TOTAL, Management and Administration	**$ 242,555**	**$ 261,399**	**$ 252,792**

SPECIAL PROJECTS AND OTHER: Includes funding for programmatic activities coordinated and contracted through the Albuquerque, Oak Ridge, and Savannah River Operations Offices and Headquarters. These special projects, often one-time efforts or complex-wide efforts, do not fit easily into other budget categories and require special control or visibility. Items at the Albuquerque Operations Office include support for aviation services, radiation effects research, support for environmental impact statements, and other complex-wide efforts. Funding at the Oak Ridge Operations Office provides support for resumption activities at the Y-12 Plant. Funding at the Savannah River Operations Office includes support for Safeguards and Security Costs for the Tritium area at the Savannah River Site and for other activities that provide direct programmatic support.

PROGRAM GOALS/ONGOING ACTIVITIES:

- Supports various special projects including direct programmatic technical support (Aviation Services, Programmatic and Site-wide EIS's, container safety, radiation effects, weapons/components shipping, etc.) through the Albuquerque Operations Office.
- Provides short-term technical support of Y-12 resumption activities through the Oak Ridge Operations Office.
- Supports the contract with Wackenhut Services, Incorporated to provide safeguards and security for the Tritium Area at the Savannah River Site. Provides other direct programmatic support.
- Supports various special projects (assessments, analyses, field support/reviews, etc.) contracted or coordinated through headquarters.

CHANGE FROM FY 1998:

The increase in FY 1999 is driven by Environmental Surety efforts at the Idaho National Engineering and Environmental Laboratory.

*PERFORMANCE MEASURES **($ Thousands)***

Special Projects and Other	FY 1997	FY 1998	FY 1999
Objective 1: Maintain confidence in the safety, reliability, and performance of the nuclear weapons stockpile without nuclear testing.	$ 0	$ 0	$ 0
Objective 2: Replace nuclear testing with a science-based Stockpile Stewardship and Management Program.	$ 0	$ 0	$ 0

Objective 3: Ensure the vitality of DOE's national security enterprise. **PERFORMANCE MEASURE:** *All facilities required for successful achievement of the Stockpile Stewardship and Management Plan are operational.*			
- Support ongoing activities through the Albuquerque Operations Office	$ 10,293	$ 8,933	$ 10,600
- Support ongoing activities through the Oak Ridge Operations Office	$ 2,234	$ 2,000	$ 2,000
- Support ongoing activities through the Savannah River Operations Office	$ 4,215	$ 4,124	$ 5,575
- Support ongoing activities through Headquarters	$ 6,348	$ 16,676	$ 13,758
- Support Environmental Surety Activities through Idaho National Engineering and Environmental Laboratory	$ 4,200	$ 3,300	$ 10,000
PERFORMANCE MEASURE: *Implement the Strategic Alignment Initiative and recommendations of the 120-Day Study.*			
- Provide incremental payment on DP pension fund liability at the Mound and Pinellas Plants	$34,469	$ 0	$ 0
Objective 4: Reduce nuclear weapons stockpiles and the proliferation threat caused by possible diversion of nuclear materials.	$ 0	$ 0	$ 0
TOTAL, Special Projects and Other	**$ 61,759**	**$ 35,033**	**$ 41,933**

CORE MANAGEMENT CAPITAL EQUIPMENT and GENERAL PLANT PROJECTS: Capital equipment is required by the four production plants and three weapons laboratories to maintain the capabilities necessary for stockpile maintenance, stockpile evaluation, and dismantlement activities. General Plant Projects provide funding for low cost construction projects (less than $2 million in FY 1997 and less than $5 million starting in FY 1998) required to maintain the infrastructure and ongoing Stockpile Management programs of the four production plants and the three weapons laboratories.

CHANGES FROM FY 1998: $23.5 million of the $34.1 million increase in FY 1999 from FY 1998 supports the ongoing maintenance and capability upgrades to those production areas of the Kansas City, Savannah River and Y-12 plants that will remain following completion of the Stockpile Management Restructuring Initiative downsizing efforts at those plants. The remainder of the funding increase supports enhanced maintenance efforts at Los Alamos and Sandia National Laboratories and provides for needed capital equipment and general plant project funding through the Albuquerque Operations Office (AL) to support activities for the Transportation Safeguards Division (TSD) and other AL site infrastructure requirements. The TSD funding flows through the AL directly to the contractor.

*PERFORMANCE MEASURES **($ Thousands)***

Core Management Capital Equipment/General Plant Projects	FY 1997	FY 1998	FY 1999
Objective 1: Maintain confidence in the safety, reliability, and performance of the nuclear weapons stockpile without nuclear testing.	$ 0	$ 0	$ 0
Objective 2: Replace nuclear testing with a science-based Stockpile Stewardship and Management Program.	$ 0	$ 0	$ 0

Objective 3: Ensure the vitality of DOE's national security enterprise. **PERFORMANCE MEASURE:** *All facilities required for successful achievement of the Stockpile Stewardship and Management Plan are operational.*			
- Maintain infrastructure and plant at Kansas City Plant	$ 8,441	$ 4,000	$ 16,500
- Maintain infrastructure and plant at Los Alamos National Laboratory	$ 2,091	$ 3,526	$ 5,829
- Maintain infrastructure and plant at Pantex Plant	$ 5,947	$ 11,860	$ 11,250
- Maintain infrastructure and plant at Sandia National Laboratories	$ 2,278	$ 3,000	$ 7,900
- Maintain infrastructure and plant at Savannah River Site	$ 8,013	$ 9,175	$ 10,400
- Maintain infrastructure and plant at Y-12 Plant	$ 20,870	$ 4,314	$ 14,079
- Maintenance activities coordinated and contracted through the Albuquerque Operation Office	$ 2,082	$ 1,000	$ 5,006
Objective 4: Reduce nuclear weapons stockpiles and the proliferation threat caused by possible diversion of nuclear materials.	$ 0	$ 0	$ 0
TOTAL, Core Mgmt. Capital Equipment/General Plant Projects	**$ 49,722**	**$ 36,875**	**$ 70,964**

CONSTRUCTION: A detailed listing of individual construction line items can be found in the Stockpile Management Overview. Construction Project Data Sheets are included at the end of this budget.

FY 1997 PERFORMANCE AGREEMENT: Completing Conceptual Design Reports (CDR's), by the end of FY 1997, for each nuclear weapons production facility that will be downsized. **Status: Successful**

CHANGES FROM FY 1998:
The approximately $32 million increase in Core Stockpile Management construction activities support the ongoing efforts to modernize and downsize the production plants. The Stockpile Manufacturing Restructuring Initiative increases by $35.6 million and the line item required to support a START I stockpile level or to allow a return to START I levels begins with a first year investment of $11.2 million. Construction efforts associated with enhancing the LANL's security posture continue for an increase of $9.7 million. Other infrastructure type projects show a decrease of $24.5 million.

PERFORMANCE MEASURES ***($ Thousands)***

Core Management Construction	FY 1997	FY 1998	FY 1999
Objective 1: Maintain confidence in the safety, reliability, and performance of the nuclear weapons stockpile without nuclear testing. **PERFORMANCE MEASURE:** *Meet all scheduled deliveries for stockpile maintenance, surveillance, assessment, and as appropriate, refurbish specific warheads as set forth in the classified Production and Planning Directive.*	$ 0	$ 0	$ 11,200
Objective 2: Replace nuclear testing with a science-based Stockpile Stewardship and Management Program.	$ 0	$ 0	$ 0
Objective 3: Ensure the vitality of DOE's national security enterprise. **PERFORMANCE MEASURE:** *All facilities required for successful achievement of the Stockpile Stewardship and Management Plan are operational.*	$ 86,581	$ 56,720	$ 32,250
PERFORMANCE MEASURE: *The Stockpile Management Restructuring Initiative is on schedule to downsize and modernize future production capabilities.*	$ 0	$ 17,450	$ 53,008
PERFORMANCE MEASURE:*Continue, in FY 1999, material protection, control, and accountability upgrades at three DOE facilities with weapons-usable material.*	$ 4,000	$ 9,200	$ 18,864
Objective 4: Reduce nuclear weapons stockpiles and the proliferation threat caused by possible diversion of nuclear materials.	$ 0	$ 0	$ 0
TOTAL, Core Management Construction	**$ 90,581**	**$ 83,370**	**$ 115,322**

ENHANCED SURVEILLANCE: The Enhanced Surveillance Program is a complex-wide initiative developing predictive measures to address the maintenance needs of the stockpile. The basic goals of the enhanced surveillance program are to predict defects that might occur in the enduring stockpile due to aging or other reasons, to develop a means to assess safety and reliability impacts, and to ensure problems are corrected before they reduce safety or reliability. Enhanced surveillance techniques will extend capabilities to predict the effects of materials aging on components and weapons performance, to determine which components are liable to fail, and to estimate failure dates. Successful completion of key activities under this 5-7 year program will provide the diagnostic tools and data essential to advance warning of stockpile defects and essential to Stockpile Life Extension Program planning. The Enhanced Surveillance Program will build upon existing Defense Programs' research and development, testing (nonnuclear), and stockpile evaluations/surveillance activities and will develop new predictive models, new techniques for data analysis, and may eventually lead to in-situ, real-time, non-destructive monitoring for warheads. The Enhanced Surveillance Program Plan issued by Headquarters and updated on an annual basis includes 10 focus areas consisting of tasks with detailed schedules, milestones, and deliverables. Each task description also includes site participants, required site funding, risk assessment, and discussion of leveraged work funded through other sources.

FY 1997 PERFORMANCE AGREEMENT: Developing enhanced surveillance techniques. **Status: Successful.**

CHANGE FROM FY 1998:
The funding increase from FY 1998 to FY 1999 supports essential tasks including tasks in organics and dynamics, evaluation of the remaining"tier 1" nonnuclear components, and enables a recently identified series of critical plutonium experiments intended to conclude the effects of aging on plutonium parts. The increase also restores under-funded tasks supporting the delivery of diagnostic tools for stockpile evaluation.

*PERFORMANCE MEASURES **($ Thousands)***

Enhanced Surveillance	FY 1997	FY 1998	FY 1999
Objective 1: Maintain confidence in the safety, reliability, and performance of the nuclear weapons stockpile without nuclear testing. **Performance Measure:** *Adhere to schedules set forth in the Enhanced Surveillance Program Plan for activities that enhance knowledge of weapon-relevant physical processes affecting aging and operation of weapon components.*			
- Delivery of diagnostic tools for surveillance of nuclear components	$ 14,037	$ 10,670	$ 19,260
- Delivery of diagnostic tools for surveillance of nonnuclear components	$ 16,652	$ 18,391	$ 20,544
- Delivery of predictive capabilities for nuclear components	$ 13,123	$ 11,563	$ 15,134
- Delivery of predictive capabilities for nonnuclear components	$ 9,950	$ 5,436	$ 12,369

Objective 2: Replace nuclear testing with a science-based Stockpile Stewardship and Management Program.	$ 0	$ 0	$ 0
Objective 3: Ensure the vitality of DOE's national security enterprise.	$ 0	$ 0	$ 0
Objective 4: Reduce nuclear weapons stockpiles and the proliferation threat caused by possible diversion of nuclear materials.	$ 0	$ 0	$ 0
TOTAL, Enhanced Surveillance	**$ 53,762**	**$ 46,060**	**$ 67,307**

ADVANCED MANUFACTURING, DESIGN AND PRODUCTION TECHNOLOGIES: The goal of the Advanced Manufacturing, Design and Production Technologies initiative is to reengineer the weapons complex product realization capabilities and support the Stockpile Life Extension Program by developing, validating, and implementing advanced tools, manufacturing processes, and practices needed to design, develop, and fabricate nuclear weapons systems and components of improved quality at reduced cost. The application of advanced manufacturing technologies will radically change the way the DOE designs, builds, and test systems and components by infusing new product and process technology and adopting modern business and engineering practices. ADaPT is the Defense Programs' vehicle for improving product realization within a downsized enterprise. ADaPT cuts across all levels of product development from the manufacture of materials to the integration of thousands of parts into a weapon. The requirements and objectives for the ADaPT Program and other advanced manufacturing programs are set forth in the Stockpile Stewardship and Management Plan (Green Book) and are further refined in the ADaPT Multi-Year Program Plan dated July 10, 1997. Major long term goals include the reduction of the occurrence of design and manufacturing defects in refurbished hardware by a factor of ten and the reduction of the time and cost required to realize these products by a factor of two.

The ADaPT's initiative sponsors four program elements to accomplish its main goals across the complex:

- Enterprise Integration (EI), which provides new and improved information tools for DOE nuclear weapons design and manufacturing activities;
- Integrated Product and Process Design (IPPD)/Agile Manufacturing(AM), which develops and deploys new design and manufacturing capabilities;
- Process Development (PD), which develops and implement new production processes and continuously improves existing processes; and
- Hedge Technologies (HT), which performs development activities to prepare to respond to possible contingencies.

CHANGE FROM FY 1998:

The change from FY 1998 reflects the nonrecurring Congressional Add-on in FY 1998 for joint development of manufacturing technologies between the plants and laboratories and advanced manufacturing and infrastructure.

*PERFORMANCE MEASURES **($ Thousands)***

Advanced Manufacturing, Design and Production Technologies	FY 1997	FY 1998	FY 1999
Objective 1: Maintain confidence in the safety, reliability, and performance of the nuclear weapons stockpile without nuclear testing.	$ 0	$ 0	$ 0

Objective 2: Replace nuclear testing with a science-based Stockpile Stewardship and Management Program.	$ 0	$ 0	$ 0
Objective 3: Ensure the vitality of DOE's national security enterprise. **Performance Measure:** *Adhere to schedules set forth in the Advanced Design and Production Technology Plan.* - Provide Enterprise Integration Tools - Development and deployment of new design and manufacturing capabilities - Develop and implement new production processes and continuously improve existing processes - Perform development activities to prepare to respond to possible contingencies	 $ 9,060 $ 7,011 $ 40,091 $ 1,426	 $ 19,291 $ 13,279 $ 40,305 $ 397	 $ 11,760 $ 13,240 $ 37,600 $ 0
Objective 4: Reduce nuclear weapons stockpiles and the proliferation threat caused by possible diversion of nuclear materials.	$ 0	$ 0	$ 0
TOTAL, Advanced Manufacturing, Design and Production Technologies	**$ 57,588**	**$ 73,272**	**$ 62,600**

RADIOLOGICAL/NUCLEAR ACCIDENT PROGRAM: The Radiological\Nuclear Accident Program provides the capability to immediately respond to radiological accidents/incidents worldwide. The assets providing this capability are: the **Aerial Measuring System (AMS**), the **Atmospheric Release Advisory Capability (ARAC**), the **Accident Response Group (ARG**), the **Federal Radiological Monitoring and Assessment Center (FRMAC**), the **Nuclear Emergency Search Team (NEST)**, the **Radiological Assistance Program (RAP)**, and the **Radiation Emergency Assistance Center/Training Site (REAC/TS**). These seven major radiological Emergency Response assets/capabilities are consolidated under the Deputy Assistant Secretary for Military Application and Stockpile Support, which provides overall program management and the organizational structure during both emergency and non-emergency conditions for the personnel, equipment, and activities that collectively comprise the program. The emergency response assets are staffed primarily by engineers, scientists, and other technical personnel from the national laboratories, production facilities, and other DOE management and operating contractors, which support the nuclear weapons complex. The funding for this program is allocated to fifteen nation-wide Department locations with the Nevada and Albuquerque Operations Offices, and the Los Alamos, Lawrence Livermore, and Sandia National Laboratories receiving the majority of the funding.

CHANGE FROM FY 1998:

In support of the Title XIV of the National Defense Authorization Act, Defense Programs is tasked with carrying out training for first responders to weapons of mass destruction. DP administers the nuclear portion of this training. Also, in working with the National Security Council, DP will be increasing its efforts to provide a more rapid response to the National Capital Area in the event of a nuclear incident.

PERFORMANCE MEASURES ($ Thousands)

Radiological/Nuclear Accident Program	FY 1997	FY 1998	FY 1999
Objective 1: Maintain confidence in the safety, reliability, and performance of the nuclear weapons stockpile without nuclear testing.	$ 0	$ 0	$ 0
Objective 2: Replace nuclear testing with a science-based Stockpile Stewardship and Management Program.	$ 0	$ 0	$ 0

Objective 3: Ensure the vitality of DOE's national security enterprise. **Performance Measure:** *Emergency response assets are exercised in national, state and local drills to ensure Departmental response to any nuclear weapons or radiological emergency in the United States or abroad.*			
- Maintaining emergency response operations.	$ 25,004	$ 26,623	$ 19,517
- Maintain the emergency response capability through exercises, drills, and training activitives.	$ 6,645	$ 3,168	$ 2,989
- Integration of new technology	$ 8,183	$ 4,676	$ 4,576
Performance Measure: *Improve response readiness to any possible weapons of mass destruction (WMD) and terrorist threat contingency using upgraded diagnostics and new equipment.*			
- Maintaining the operations of the WMD capability	$ 18,878	$ 20,467	$ 27,028
- Maintain the WMD response capability through exercises, drills, and training activities,	$ 6,008	$ 10,964	$ 10,743
- Integration of new technology	$ 11,082	$ 12,910	$ 12,747
Objective 4: Reduce nuclear weapons stockpiles and the proliferation threat caused by possible diversion of nuclear materials.	$ 0	$ 0	$ 0
TOTAL, Radiological/Nuclear Accident Program	**$ 75,800**	**$ 78,808**	**$ 77,600**

Construction	FY 1997	FY 1998	FY 1999
96-D-125, Washington Measurements Operations Facility, AAFB, MD	**$ 3,825**	**$ 0**	**$ 0**

TOTAL, Radiological/Nuclear Accident Response (Operations & Maintenance and Construction)	$ 79,625	$ 78,808	$ 77,600

TRITIUM SOURCE: The Tritium Source Program will assure that adequate supplies of tritium will be available to meet the requirements of the enduring stockpile. In keeping with the Secretarial Record of Decision announced on December 5, 1995, the Department will pursue a dual-track strategy for a new, assured source of tritium. One track will explore the purchase of an operating or partially complete commercial light-water reactor (CLWR) or the purchase of irradiation services from such a reactor. The second track will be to design, build, and test critical components of an accelerator system for production of tritium and prepare a design for the actual facility. The Department will select one of the technology alternatives in 1998 to serve as the primary source of tritium for the nuclear weapons stockpile. The other technology would be developed as a back-up source. The Department's Savannah River Site has been selected for CLWR's Tritium Extraction Facility and as the location for the accelerator plant, should one be built.

FY 1997 PERFORMANCE AGREEMENT:

Issuing a draft request for proposal for supplying tritium through the purchase or lease of commercial reactors or irradiation services by March 31, 1997. **Status: Successful**

Making Departmental decision on the accelerator super conducting design options by March 1997. **Status: Successful**

Approving the accelerator plant project baseline by September 1997 to be ready to start engineering design in October 1997. **Status: Successful**

Approving the commercial reactor's tritium extraction facility project baseline by September 1997 to be ready to start engineering design by October 1997. **Status: Partially Successful**. The final conceptual design report was issued in June 1997, independent verification and validation of the cost estimate was completed by July 1997. Critical Decision #2, Approval of Baseline, occured on October 20, 1997.

CHANGE FROM FY 1998:

The decrease from FY 1998 reflects the 1998 technology decision, which will allow one of the two technology options to become the focus of ongoing options.

The FY 1999 budget request includes $157.0 million to pursue the option that is selected. If the purchase of irradiation services from commercial light water reactors is selected as the primary option, the budget request will be sufficient to meet current requirements. If the Department selects accelerator production of tritium as the primary option, it will need to seek relief from the current target date for initiating new tritium production or request additional funding.

Table 1: Weapons Stockpile Management, Tritium Source, Objective 1, Strategy 4 (Dollars in Thousands)

PERFORMANCE MEASURES	FY 1997	FY 1998	FY 1999*
A. Perform the scheduled supporting activities to allow tritium production in a commercial reactor beginning in FY 2003 and tritium extraction operations beginning by FY 2005.	$ 27,500	$ 61,739	TBD
B. Perform the scheduled supporting activities to allow tritium production in the APT by FY 2007; specifically continue engineering development and demonstration activities, complete preliminary design, begin detailed design, and initiate site preparation.	$ 122,500	$ 199,116	TBD
Total, Objective 1, Strategy 4	$ 150,000	$ 260,855	$157,000**

* The FY 1999 budget request includes $157.0 million to pursue the option that is selected. If the purchase of irradiation services from commercial light water reactors is selected as the primary option, the budget request will be sufficient to meet current requirements. If the Department selects accelerator production of tritium as the primary option, it will need to seek relief from the current target date for initiating new tritium production or request additional funding.

** Allocations will be developed based upon results of technology decision expected in early 1998.

A detailed budget justification for the $157 million request will be submitted following the technology decision.

MATERIALS: Beginning in FY 1999, this program funds the storage, handling, shipping, safeguarding, control and accountability, and disposition for Defense Programs (DP) uranium 233 materials located at the Oak Ridge National Laboratory (Building 3019). This program also supports programmatic activities that include: the operation of Building 9206 at Y-12 Plant until phaseout and transfer to Building 9212; decontamination and refinement of surplus precious metals; operation of U-233 Storage and Distribution Center; the recovery of materials from irradiated targets and the manufacture of radiation sources for Defense Programs and for other federal civilian and defense activities at the ORNL Radiochemical Engineering Development Center; and the processing of highly enriched uranium scrap from across the DOE complex to improve the accuracy of measurements, to allow for increased efficiencies in storing the materials, and to allow for other beneficial uses of the materials.

Congress, in the FY 1998 Energy & Water Appropriations Act, transferred responsibility for DP materials at the Rocky Flats Environmental Technology Site and the Fernald Environmental Management Project (FEMP) to the Office of Environmental Restoration and Waste Management (EM) in order to simplify the management issues associated with environmental restoration activities at these sites. Consistent with this action by Congress, the Department in FY 1999 is transferring management and funding responsibility for materials at remaining EM-landlord locations from Defense Programs to EM. These sites are Idaho, Richland, and Savannah River. DP will retain ownership of national security materials. Also included in the transfer are certain neutron source program materials at LANL.

CHANGE FROM FY 1998:
FY 1999 program for Materials is reduced due to the transfer of materials at EM-landlord locations (Idaho, Richland, and Savannah River) to EM.

PERFORMANCE MEASURES ($ in Thousands)

Materials	FY 1997	FY 1998	FY 1999
Objective 1: Maintain confidence in the safety, reliability, and performance of the nuclear weapons stockpile without nuclear testing.	$ 0	0	$ 0
Objective 2: Replace nuclear testing with a science-based Stockpile Stewardship and Management Program.	$ 0	$ 0	$ 0

Objective 3: Ensure the vitality of DOE's national security enterprise **PERFORMANCE MEASURE:** *No loss of U.S. origin nuclear materials in the U.S. and abroad from theft, loss, or illicit trafficking.* - Maintain safe, secure compliant storage of DP nuclear material at EM-landlord sites (transfer in FY 1999)	$ 33,788	$ 33,366	$ 0
- Process HEU scrap	$13,066	$ 11,318	$ 11,621
- Process Pu-239/Be sources	$ 2,168	$ 1,881	$ 0
- Maintain safe and secure storage of excess of U-233 at ORNL, Building 3019	$ 6,928	$ 9,115	$ 4,615
- Recovery Pu-242 and fabricate CF-252 sources at ORNL	$ 5,894	$ 5,737	$ 5,675
- Complete transfer of responsibility for materials at RF and Fernald to EM	$44,788	$ 0	$ 0
- Operation of the DOE Precious Metals Pool	$1,188	$ 0	$ 0
Objective 4: Reduce nuclear weapons stockpiles and the proliferation threat caused by possible diversion of nuclear materials	$ 0	$ 0	$ 0
TOTAL, Materials	**$ 107,820**	**$ 61,417**	**$ 21,911**

DEPARTMENT OF ENERGY
FY 1999 CONGRESSIONAL BUDGET REQUEST

WEAPONS ACTIVITIES
(Tabular dollars in thousands. Narrative material in whole dollars.)

Weapons Stockpile Management

1.	Title and Location of Project:	Nuclear Materials Safeguards and Security Upgrades Project Los Alamos National Laboratory, New Mexico	2a. Project No.: 99-D-132 2b. Constructed Funded

SIGNIFICANT CHANGES

C None.

DEPARTMENT OF ENERGY
FY 1999 CONGRESSIONAL BUDGET REQUEST

WEAPONS ACTIVITIES
(Tabular dollars in thousands. Narrative material in whole dollars.)

Weapons Stockpile Management

1.	Title and Location of Project:	Nuclear Materials Safeguards and Security Upgrades Project Los Alamos National Laboratory, New Mexico		2a. Project No.: 99-D-132 2b. Constructed Funded
		Preliminary Schedule	Title I Baseline	Current Baseline Schedule
3a.	Date A-E Work Initiated (Title I Design Start Scheduled):	1st Qtr. FY 1999 (Phase 1)		
3b.	A-E Work (Titles I & II) Duration:	24 months (Phase 1)		
4a.	Date Physical Construction Starts:	3rd Qtr. FY 2000 (Phase 1)		
4b.	Date Construction Ends:	3rd Qtr. FY 2004 (Phase 1)		
		Preliminary Estimate	Title I Baseline	Current Baseline Estimate
5.	Total Estimated Cost (TEC) --	$ 60,746 a/		
6.	Total Project Cost (TPC) --	$ 70,920		

a/ TEC and Financial Schedule reflects Phase 1 only. Phase 2 cost estimate and funding profile will be completed as part of future conceptual design efforts.

1. Title and Location of Project:	Nuclear Materials Safeguards and Security Upgrades Project Los Alamos National Laboratory, New Mexico (continued)	2a. Project No.: 99-D-132 2b. Construction Funded

7. Financial Schedule (Federal Funds):

Fiscal Year	Appropriations	Adjustments	Obligations	Costs
1999	$ 9,700	$ 0	$ 9,000	$ 8,000
2000	14,300	0	13,288	11,742
2001	15,000	0	13,962	15,000
2002	11,800	0	14,278	15,340
2003	9,946	0	6,646	6,700
2004	0	0	3,572	3,964
2005	0	0	0	0

8. Project Description, Justification and Scope

The Nuclear Material Safeguard and Security Project (NMSSUP) replaces the existing Los Alamos National Laboratory-wide security system, addresses SNM facility requirements, and addresses malevolent vehicle threats at key nuclear facilities. Assessments of the LANL safeguards and security system have identified numerous system deficiencies due to aging equipment and outdated technologies. The NMSSUP will provide a reliable safeguards and security system to ensure the protection and control of Special Nuclear Material (SNM), classified matter, and Departmental property supporting current missions at LANL.

The NMSSUP is broken into two phases to accomplish the project goals. The currently requested Phase 1 will provide for the replacement of safeguard and security control systems (computers/communications links, etc) and modification of related facilities. A planned Phase 2 may replace or build perimeter detection systems and address the threat of public traffic on uncontrolled roads near key nuclear facilities.

This project is to provide necessary upgrades to the existing Laboratory-wide security systems to bring them into compliance with DOE Order 5632.1C and to address deficiencies cited in the pending Los Alamos National Laboratory (LANL) Site Safeguards and Security Plan (SSSP). The systems being upgraded have been in operation for up to 14 years, have exceeded their useful design life, and are in need of replacement. Funding is required to continue safe, secure, economical operation of the Laboratory.

8. Project Description, Justification and Scope (Continued)

The Phases of the security system to be upgraded or replaced may include the following:

Phase I

A new security system will be installed to include multiple host computers, operator interface consoles, upgrades to existing facilities, and a dedicated communications system. Existing facilities will be upgraded to serve as a Central Alarm Station (CAS) and Secondary Alarm Station (SAS) which will house the host computers and security monitoring personnel. To support the transition of the TA-55 local assessment facility for operation as the new CAS, an un-staffed assessment console room at TA-64-1 will be provided. Additional detail is provided below.

Control System

The project will replace the existing Laboratory security system, Basic Rapid Alarm Security System (BRASS), computers and software with Argus, a security system provided by Lawrence Livermore National Laboratory (LLNL). The CAS and SAS will be reconfigured, and minor remodeling of the badging office will be performed to accommodate Argus enrollment stations.

Facilities

CAS (TA-55-142) will be upgraded to house the host system computer and new operator consoles. A small utility building will be constructed to accommodate facility support equipment, and provide space for supervisory personnel.

SAS (TA-3-440) will be upgraded to house the host system computer and new operator consoles. A small utility building will be constructed to accommodate facility support equipment. Limited Area (LA) fencing will be installed to enclose the SAS to provide proper security. This facility will also house the training console to support the Argus system.

TA-64-1 will be upgraded to house a new un-staffed assessment console to support the transition of the TA-55-142 local assessment room for operation as the CAS. This area will continue to house and support the existing LANL fire protection control and alarm system on the existing BRASS.

8. Project Description, Justification and Scope (Continued)

Communications System

A new fiber optic communications network will replace the existing telephone circuits connecting the security control computers to the field concentrators. Phase I will install the portion of the communications system that connects the new host computers to the security concentrators at LANL's Category I SNM facilities TA-55 and TA-18. In addition, the communications circuits needed to connect the computers in the CAS, SAS, and the un-staffed assessment console room will be installed in Phase I. Because Phase I involves installing fiber-optic bundles coming out from the CAS and SAS, those bundles will be sized with adequate capacity in Phase I to accommodate the number of fibers needed to support Phase II and III.

Planned Phase 2

Category 1 SNM Facilities and NMSM Facilities

Includes protection of the following Category 1 SNM Facilities, such as:

- TA-55, Plutonium Facility
- TA-18, Los Alamos Critical Experiments Facility (LACEF)

TA-55 and TA-18 each have an existing Perimeter Intrusion Detection and Assessment System (PIDAS). The TA-55 and TA-18 PIDAS beds have suffered significant erosion, and the PIDAS sensors are in need of replacement. These two PIDAS may need to be replaced due to their condition and age. Internal building modifications may be required to accommodate the new systems.

Phase 2 may also evaluate requirements for controlling proximity of public traffic to TA-3 facilities and modify traffic profiles and patterns if needed.

In FY 1999, funding is requested for design and construction activities.

1. Title and Location of Project:	Nuclear Materials Safeguards and Security Upgrades Project Los Alamos National Laboratory, New Mexico (continued)	2a. Project No.: 99-D-132 2b. Construction Funded

9. Details of Cost Estimate: Phase 1 only (Based upon Pre-Validated December 1997 CDR) a/

		Item Cost	Total Cost
a.	Design and Management Costs		$ 18,617
	(1) Engineering design and inspection at approximately 30.5 percent of construction costs (Item c)	$10,420	
	(2) Construction management costs at 6.3 percent of construction costs	2,136	
	(3) Project management at 17.8 percent of construction costs (Item c).	6,061	
b.	Land and land rights		0
c.	Construction costs		34,129
	1. Improvements to land	5,625	
	2. Buildings and Building Modification	6,964	
	3. Special Equipment.	21,540	
d.	Standard equipment		0
e.	Major computer items		0
f.	Removal cost less salvage		0
g.	Design and project liaison, testing, checkout and acceptance		0
h.	Subtotal (a through g)		$52,746
i.	Contingencies at approximately 20.3 percent of above costs		8,000
j.	Total line item cost (Section 11.a.1.(a))		$60,746
k.	LESS: Non-Federal contribution		0
l.	Net Federal total estimated cost (TEC)		$60,746

a/ TEC and Financial Schedule reflects Phase 1 only. Phase 2 cost estimate and funding profile will be completed as part of future conceptual design efforts.

10. Method of Performance

Engineering, design and inspection will be accomplished under a negotiated architect-engineer (A-E) contract. Construction and procurement will be accomplished by fixed-price contracts awarded on the basis of competitive bidding. The computer system will be procured and installed through a cooperative agreement with Lawrence Livermore National Laboratory.

11. Schedule of Project Funding and Other Related Funding Requirements

	Prior Years	FY 1997	FY 1998	FY 1999	FY 2000	Outyears	Total
a. Total project costs							
1. Total facility costs							
(a) Line item (Section 9.j.)	$ 0	$ 0	$ 0	$ 8,000	$ 11,742	$41,004	$ 60,746
(b) Plant, Engineering and Design (PE&D)	0	0	0	0	0	0	0
(c) Operating expense funded equipment	0	0	0	0	0	0	0
(d) Inventories	0	0	0	0	0	0	0
(e) Total facility costs (Federal and Non-Federal)	$ 0	$ 0	$ 0	$ 8,000	$ 11,742	$41,004	$ 60,746
2. Other project costs							
(a) R&D necessary to complete project	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
(b) Conceptual design cost	0	575	500	0	0	0	1,075 b/
(c) Decontamination and Decommissioning (D&D)	0	0	0	0	0	0	0
(d) NEPA documentation costs	0	50	0	0	0	0	50
(e) Other project related costs	0	950	300	800	800	6,199	9,049
(f) Total other project costs	$ 0	$ 1,575	$ 800	$ 800	$ 800	$ 6,199	$10,174
(g) Total project costs	$ 0	$ 1,575	$ 800	$ 8,800	$ 12,542	$47,203	$70,920
(h) LESS: Non-Federal contribution	0	0	0	0	0	0	0
(i) Net Federal total project costs (TPC)	$ 0	$ 1,575	$ 800	$ 8,800	$ 12,542	$47,203	$70,920

b/ Conceptual design costs over Phase 1 activities only. Phase 2 conceptual design costs of aproximately $989,000 will be added in the fiscal year the work begins.

11. Schedule of Project Funding and Other Related Funding Requirements (Continued)

b. Related annual costs (estimated life of project--30 years)

1.	Facility operating costs	$ TBD
2.	Facility maintenance and repair costs	TBD
3.	Programmatic operating expenses directly related to the facility	TBD
4.	Capital equipment not related to construction but related to the programmatic effort in the facility	TBD
5.	GPP or other construction related to programmatic effort in the facility	TBD
6.	Utility costs	TBD
7.	Other costs	TBD
	Total related annual costs	$ TBD

12. Narrative Explanation of Total Project Funding and Other Related Funding Requirements

a. Total project funding (Funding and obligation profile is being developed as part of the Conceptual Design Plan.)

1. Total facility costs
   (a) Line item -- Cost to design, procure and install replacement security system.
   (b) PE&D -- None.
   (c) Operating expense funded equipment -- None.
   (d) Inventories -- None.

2. Other project costs
   (a) R&D necessary to complete construction -- Includes Engineering and Feasibility Studies
   (b) Conceptual design -- Includes Preliminary Designs, F&OR's, CDR, CPDS, final Design Criteria and Value Engineering.
   (c) Decontamination and Decommissioning (D&D) -- Preparation of SWMU review reports.
   (d) NEPA documentation -- Includes all Sitewide EIS Support Activities.
   (e) Other project related funding -- Includes PHA development, performance assessment and acceptance and turnover development.

b. Related annual costs

To be determined as part of Phase 1A & 1B Conceptual Design Reports.

DEPARTMENT OF ENERGY
FY 1999 CONGRESSIONAL BUDGET REQUEST

WEAPONS ACTIVITIES
(Tabular dollars in thousands. Narrative material in whole dollars.)

Weapons Stockpile Management

1.	Title and Location of Project:	Stockpile Management Restructuring Initiative - Pantex Plant, Amarillo, Texas		2a. Project No.: 99-D-128 2b. Constructed Funded
		Preliminary Schedule	Title I Baseline	Current Baseline Schedule
3a.	Date A-E Work Initiated (Title I Design Start Scheduled):	2nd Qtr. FY 1999		
3b.	A-E Work (Titles I & II) Duration:	48 months a/		
4a.	Date Physical Construction Starts:	4th Qtr. FY 2000		
4b.	Date Construction Ends:	4th Qtr. FY 2006		
		Preliminary Estimate	Title I Baseline	Current Baseline Estimate
5.	Total Estimated Cost (TEC) --	$ 42,380		
6.	Total Project Cost (TPC) --	$ 49,600		

a/ Phased design and construction will be required to minimize impact to plant operations.

1.	Title and Location of Project:	Stockpile Management Restructuring Initiative - Pantex Plant, Amarillo, Texas (continued)	2a. Project No.: 99-D-128 2b. Construction Funded

7. Financial Schedule (Federal Funds):

Fiscal Year	Appropriations	Adjustments	Obligations	Costs
1999	$ 1,108	$ 0	$ 1,108	$ 1,048
2000	3,429	0	3,429	3,409
2001	12,775	0	12,775	10,255
2002	7,647	0	7,647	8,673
2003	8,558	0	8,558	10,132
2004	4,408	0	4,408	4,408
2005	2,751	0	2,751	2,751
2006	1,704	0	1,704	1,704

8. Project Description, Justification and Scope

This project will consolidate existing operations to newer facilities and/or will reduce the existing footprint of the Pantex Plant. This consolidation will permit vacating numerous World War II era structures and will result in reduced maintenance and operating costs associated with vacating permanent structures and removal of temporary structures. Relocation of these activities into newer structures, with required modifications, will also improve safety, security, operational efficiency, and environmental compliance.

Mass Properties Relocation

Mass Property operations currently exist in building 12-060 and include Product of Inertia (POI) and Moment of Inertia/Center of Gravity MOI/CG). The ramp used to transport weapons to the mass properties area has structural problems. Temporary structural upgrades were completed in 1993 to the ramp, but these temporary repairs only provided a quick, short-term fix. This project will consolidate operations and locate the mass property operations to an existing, newer facility; this project is consistent with the plant mission to reduce the plant footprint.

Laundry Operations Relocation

This project provides for the design and construction of a new laundry facility within Building 12-103 and relocation of Laundry Operations from building 12-001A to building 12-103. Building 12-001A was constructed in 1952 and has an area of 3,400 gross square feet. It is located in the Property Protection Area of Zone 12 North. The completion of this project will enable 12-001A to be shutdown, resulting in saving utility and maintenance costs of approximately $26,000 per year and reducing the footprint and Pantex.

8. Project Description, Justification and Scope (Continued)

Gas Analysis Relocation

This project will relocate the Gas Analysis Laboratory currently in Buildings 12-019 and 12-021 to Buildings 12-032 and 12-033. Currently, the equipment and supplies are stored in the operations bays, on top of some work surfaces and cabinets. Building 12-021 does not comply with the requirement that the Plant Public Address System be audible in all areas of operation. The primary mission of the Gas Lab is to use mass spectrometers and gas chromatographies to perform gas analysis on gas samples. The functions performed by the Gas Lab continue to grow despite the change in missions within the nuclear weapons complex. The Gas Lab's present facility is a vintage World War II structure that is overcrowded, outdated, and expensive to maintain. Buildings 12-032 and 12-033 will be modified and updated to comply with current requirements while buildings 12-019 and 12-021 will be shutdown and scheduled for demolition.

Metrology Relocation

This project will relocate Metrology into the Material Access Area (MAA). The current operations are being performed primarily in Building 12-053 which is 4,800 square feet and was constructed in 1965. This will result in reducing the footprint of Pantex by 4,800 square feet and reducing the maintenance and utility costs associated by approximately $43,000.

Records Storage Relocation

Records Storage will be relocated from Buildings 12-001, 12-032, and 12-006 into Building 12-005. The current buildings have been deemed inadequate by current criteria. Federal Agencies are authorized to maintain and operate records centers for the storage, servicing, and disposal of their own records. The current records storage buildings do not meet certain security requirements. Building 12-005 will be modified to comply with all requirements. This project will reduce the footprint of the Pantex plant.

Maintenance Consolidation

Several Crafts Maintenance shops will be consolidated. These include Electric Shop, Area Mechanics Shop, Electronic Shop, Instrument Shop, Special Mechanics Inspectors, Electronic Security Maintenance, several Maintenance Area shops. This project will provide relief from overcrowded conditions as well as allow for a consolidated waste monitoring, collection and disposal program.

35 Account Relocation

Currently the 35 Account activities are housed in 21,300 square feet of World War II buildings in fair to poor condition. This relocation would permit all activities to be relocated into one location saving an estimated $415,000 per year in maintenance and utility costs.

8. Project Description, Justification and Scope (Continued)

Small Components Consolidation

This project will provide modern facilities for relocation of current operations including the Pantex Explosive Testing, Explosive Pellet Pressing, Explosive Extrusion, and Laser Welding activities while reducing the overall footprint at Pantex. 63,000 square feet of building space would be shutdown resulting in a savings of approximately $800,000 per year in mainenance and utility costs. This project is part of the Pantex Activity Implementation Plan (AIP).

Weapons Staging Relocation

This project will relocate weapons staging from the magazines in Zone 4 MAA to Zone 12 South MAA. This would reduce the Pantex footprint by approximately 85,000 square feet resulting in a savings of approximately $5,400,000 in reduced maintenance, utility, transportation, and security costs. This project provides the capability and capacity within Zone 12 South MAA for weapons staging to support the assembly/disassembly program at the Pantex plant while reducing the overall footprint at Pantex.

Mortgage Reduction Initiative

The objective of this project is the shutdown of obsolete and excess facilities identified as excess to mission requirements resulting in reduced costs while achieving more efficient and effective operations. Ongoing efforts to relocate high explosive, assembly, and disassembly operations out of World War II facilities has resulted in numerous facilities becoming candidates for shutdown. The Mortgage Reduction Initiative will emphasize the discontinued use and shutdown of high-cost maintenance buildings and temporary structures.

NDE Radiography

The movement of Radiography activities from Buildings 12-021 and 12-078 into Building 12-121 will reduce the footprint of the Pantex plant by approximately 27,500 square feet and reduce annual maintenance and utility costs by $300,000. Buildings 12-021 and 12-078 are vintage World War II buildings in poor conditions and not designed for the amounts of high explosives required for current operations.

HE Formulation

This project will include the necessary modifications to Building 11-050, including relocation and installation of equipment, to permit the HE Formulation activities to be moved into this facility. This project will also relocate environmental testing chambers as well as relocate the small scale and process analysis capability equipment necessary to support synthesis and formulation activities. Some of the processes to be done in the facility include: PBX Processing, Particle Size Adjustment, Extrudable Explosives Processing, Solvent Recovery, Mock

8. Project Description, Justification and Scope (Continued)

Processing/IHE Recycling, Freeze Drying Explosives, Dry Blending, and Wet Mixing. This will provide an updated facility for HE Formulation and Environmental Testing related operations while reducing the overall footprint at Pantex.

In FY 1999, funding is requested for design activities.

1. Title and Location of Project:	Stockpile Management Restructuring Initiative - Pantex Plant, Amarillo, Texas (continued)	2a. Project No.: 99-D-128 2b. Construction Funded

9. Details of Cost Estimate b/ c/ d/

		Item Cost	Total Cost
a.	Design and Management Costs		$ 14,248
	(1) Engineering design and inspection at approximately 16.1 percent of construction costs (Item c)	$ 3,125	
	(2) Construction management costs at 2.1 percent of construction costs	414	
	(3) Project management at 55.1 percent of construction costs (Item c).	10,709	
b.	Land and land rights		0
c.	Construction costs		19,449
	1. Improvements to land including grading, drainage, paving, parking, fencing, lighting pedestrian access walks	264	
	2. Buildings	11,555	
	3. Other structures	0	
	4. Demolition for construction.	825	
	5. Utilities	60	
	6. Special facilities.	6,745	
d.	Standard equipment		1,521
e.	Major computer items		0
f.	Removal cost less salvage		0
g.	Design and project liaison, testing, checkout and acceptance		0
h.	Subtotal (a through g)		$35,218
i.	Contingencies at approximately 20.3 percent of above costs		7,162
j.	Total line item cost (Section 11.a.1.(a))		$42,380
k.	LESS: Non-Federal contribution		0
l.	Net Federal total estimated cost (TEC)		$42,380

b/ Costs have been escalated as follows: ED&I - 18 percent, Construction 20.79 percent, and Equipment 20.87 percent. Escalation was applied separately to the mid-point of each phase.

c/ Escalation is based on ICE/CCMD/HQ guidelines.

d/ Estimate was based on the Independent Cost Reviews (ICR 6/97 and 8/97) of the Conceptual Design Report (Revision 1).

10. Method of Performance

The design services (Title I, II, and III) will be accomplished by an outside A-E firm and will be administered by the Department of Energy (DOE) or the Operating Contractor (Mason and Hanger Corporation).

The construction services of this project will be performed by an outside construction contractor operating under a fixed-price, lump-sum contract to be awarded on the basis of competitive bids. This contract may be administered by DOE, Corps of Engineers (COE), or the Operating Contractor (Mason and Hanger Corporation).

Construction Management Services will be performed by either the COE, DOE Operating Contractor or by a construction management firm under contract to DOE or the Operating Contractor.

1. Title and Location of Project:	Stockpile Management Restructuring Initiative - Pantex Plant, Amarillo, Texas (continued)	2a. Project No.: 99-D-128 2b. Construction Funded

11. Schedule of Project Funding and Other Related Funding Requirements

	Prior Years	FY 1997	FY 1998	FY 1999	FY 2000	Outyears	Total
a. Total project costs							
1. Total facility costs							
(a) Line item (Section 9.j.)	$ 0	$ 0	$ 0	$ 1,048	$ 3,409	$37,923	$ 42,380
(b) Plant, Engineering and Design (PE&D)	0	0	0	0	0	0	0
(c) Operating expense funded equipment	0	0	0	0	0	0	0
(d) Inventories	0	0	0	0	0	0	0
Total facility costs (Federal and Non-Federal)	$ 0	$ 0	$ 0	$ 1,048	$ 3,409	$37,923	$ 42,380
2. Other project costs							
(a) R&D necessary to complete project	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
(b) Conceptual design cost	228	540	0	0	0	0	768
(c) Decontamination and Decommissioning (D&D)	0	0	0	0	0	0	0
(d) NEPA documentation costs	97	200	50	30	35	314	726
(e) Other project related costs	0	0	385	1,190	963	3,188	5,726
(f) Total other project costs	$ 325	$ 740	$ 435	$ 1,220	$ 998	$ 3,502	$ 7,220
(g) Total project costs	$ 325	$ 740	$ 435	$ 2,268	$ 4,407	$41,425	$ 49,600
(h) LESS: Non-Federal contribution	0	0	0	0	0	0	0
(i) Net Federal total project costs (TPC)	$ 325	$ 740	$ 435	$ 2,268	$ 4,407	$41,425	$ 49,600

1. Title and Location of Project:	Stockpile Management Restructuring Initiative - Pantex Plant, Amarillo, Texas (continued)	2a. Project No.: 99-D-128 2b. Construction Funded

11. Schedule of Project Funding and Other Related Funding Requirements (Continued)

b. Related annual costs (estimated life of project--30 years)

1.	Facility operating costs	$ 1,036
2.	Facility maintenance and repair costs	259
3.	Programmatic operating expenses directly related to the facility	12,253
4.	Capital equipment not related to construction but related to the programmatic effort in the facility	1,860
5.	GPP or other construction related to programmatic effort in the facility	0
6.	Utility costs	367
7.	Other costs	0
	Total related annual costs	$ 15,775

12. Narrative Explanation of Total Project Funding and Other Related Funding Requirements

a. Total project funding

1. Total facility costs
   (a) Line item -- $42,380,000.
   (b) PE&D -- None.
   (c) Operating expense funded equipment -- None
   (d) Inventories -- None.
2. Other project costs
   (a) R&D necessary to complete construction -- None.
   (b) Conceptual design -- Shown above.
   (c) Decontamination and Decommissioning (D&D) -- None
   (d) NEPA documentation -- Shown above.
   (e) Other project related funding costs are engineering support for pre-operational test, checkouts and startup-Shown above.
   (f) Non-Federal Contribution - None.

12. Narrative Explanation of Total Project Funding and Other Related Funding Requirements (Continued)

b. Related annual costs

It is estimated that the facility will be used 50 years for its programmatic purpose.

1. Facility operating costs -- The major elements comprising the annual costs are for energy costs, labor costs, and operating costs of mechanical equipment.
2. Facility maintenance - This will be completed by the Pantex plant craftsman. Maintenance and repair costs have been included.
3. Programmatic operating expenses directly related to the facility -- Program costs to be incurred in the facilities.
4. Capital equipment not related to construction but related to the programmatic effort of the facility -- Capital Equipment to support the facilities.
5. GPP or other construction related to the programmatic effort -- None.
6. Utility costs -- Estimated as shown.
7. Other Costs -- None.

DEPARTMENT OF ENERGY
FY 1999 CONGRESSIONAL BUDGET REQUEST

WEAPONS ACTIVITIES
(Tabular dollars in thousands. Narrative material in whole dollars.)

Weapons Stockpile Management

1.	Title and Location of Project:	Stockpile Management Restructuring Initiative Kansas City Plant, Kansas City, Missouri		2a. Project No.: 99-D-127 2b. Construction Funded
		Preliminary Schedule	Title I Baseline	Current Baseline Schedule
3a.	Date A-E Work Initiated (Title I Design Start Scheduled):	1st Qtr. FY 1999		
3b.	A-E Work (Titles I & II) Duration:	61 months a/		
4a.	Date Physical Construction Starts:	3rd Qtr. FY 1999		
4b.	Date Construction Ends:	3rd Qtr. FY 2006		
		Preliminary Estimate	Title I Baseline	Current Baseline Estimate
5.	Total Estimated Cost (TEC) --	$122,500		
6.	Total Project Cost (TPC) --	$139,500		

a/ The subprojects will be phased as required to maintain production operations. Title I design, Title II design and construction of subprojects will occur simultaneously after 3rd Qtr. FY 1999.

1. Title and Location of Project:	Stockpile Management Restructuring Initiative Kansas City Plant, Kansas City, Missouri (continued)	2a. Project No.: 99-D-127 2b. Construction Funded

7. Financial Schedule (Federal Funds):

Fiscal Year	Appropriations	Adjustments	Obligations	Costs
1999	$ 13,700	$ 0	$ 13,700	$ 3,000
2000	24,500	0	24,500	14,000
2001	21,700	0	21,700	20,000
2002	31,300	0	31,300	25,000
2003	14,000	0	14,000	25,000
2004	15,600	0	15,600	18,000
2005	1,700	0	1,700	15,800
2006	0	0	0	1,700

8. Project Description, Justification and Scope

The end of the Cold War radically changed the defense posture of the United States, calling for significant changes and reductions in nuclear weapons complex structure and operations. The initial phase of this retrenchment began when the Department of Energy (DOE) decided to cease nonnuclear production at three plants and consolidate most of its nonnuclear manufacturing at the Kansas City Plant. However, even with the influx of new missions, the downturn in defense production meant continued reductions in operating costs and work force.

The Stockpile Management Restructuring Initiative lays out a cost-effective plan that capitalizes on the Kansas City Plant's logistic and manufacturing expertise to ensure quality nonnuclear products through the year 2010 and beyond. Furthermore, the initiative minimizes DOE costs in the near term by lessening risks and reducing operating expenditures concurrent with capital investments. It also provides the technical capability, production capacity, and flexibility necessary to allow the Kansas City Plant to support scheduled nonnuclear production and a wide range of unanticipated production requirements, confidently and effectively.

The Stockpile Management Restructuring Initiative will allow the Kansas City Plant's infrastructure to be altered and greatly reduced from the current plant profile, substantially reducing costs to operate the Kansas City Plant. The restructuring initiative consists of changing the existing plant and operational approach in four major aspects: 1) physically reducing the size of the facility, 2) changing the approach to manufacturing from product-based to process-based, 3) reducing the support infrastructure appropriate for the rightsized operation, and 4) further streamlining the organizational structure to focus directly on the core manufacturing mission.

8. Project Description, Justification and Scope (Continued)

Currently the Kansas City Plant consists of approximately 3.2 million square feet of floor space contained in three connected buildings: the main building, the manufacturing support building (MSB) and the technology transfer center (TTC). Approximately 3 million square feet of floor space is core stockpile management funded. Much of the floor space is underutilized and costly to maintain. The Kansas City Plant will be rearranged into three business units and a support operations business unit to bring about an overall reduction in total managed floor space, streamline operations, and produce increased long-term operating efficiencies in manufacturing processes. The approximate square footage of each business unit after consolidation is as follows:

	Square Ft.
• Electrical Products Business Unit	236,000
• Mechanical Business Unit	350,000
• Engineered Materials Business Unit	198,000
• Support Operations Business Unit	850,000
• Vacant, Unallocated and Unusable	666,000
Total	2,300,000

• **Electronics Products Business Unit (EPBU) Subprojects**

Detonator Cable Assembly

The Detonator Cable Assembly area equipment and production processes will be relocated and consolidated into an area of approximately 7,500 square feet on the factory mezzanine. Cable Assembly equipment and various work stations and bench mounted equipment will be relocated to the north end of the department.

Printed Wiring Assembly

The Printed Wiring Assembly area equipment and production processes will be relocated and consolidated into an area of approximately 6,700 square feet on the factory mezzanine. Printed Wiring Assembly equipment and various work stations and bench mounted equipment will be relocated and consolidated.

8. Project Description, Justification and Scope (Continued)

Welding and Encapsulation Area
The Electronics Welding and Encapsulation Area equipment and production processes will be relocated and consolidated into an area of approximately 14,000 square feet on the factory mezzanine. Electronics Welding and Encapsulation equipment and various work stations and bench mounted equipment will be relocated and consolidated.

Final Assembly Area
The Electronics Final Assembly Area equipment and production processes will be relocated and consolidated into an area of approximately 13,000 square feet on the factory mezzanine. Electronics Final Assembly equipment and various work stations and bench mounted equipment will be relocated and consolidated.

High Energy Products Manufacturing Consolidation (Fire Sets)
The Fire Sets area equipment and production processes will be consolidated on the factory mezzanine into an area of approximately 10,000 square feet within the existing 20,000 square foot facility. Fire Sets equipment and various work stations and bench mounted equipment will be relocated from the south side of the existing facility to the north end.

AFT Subassembly
The AFT Subassembly facility will be relocated from its current location in approximately 4,000 square feet to a 3,000 square foot area currently occupied by Sheetmetal Assembly, D/45 on the west side of the factory "48" aisle. Heavy portable carts, testers, tool fixtures, heavy tool storage racks, and work benches will be relocated to the designated relocation area. The vacated space will be left as a Safe Shutdown Area.

Test Equipment Fabrication, Calibration, and Maintenance
This subproject will relocate Test Equipment Fabrication, Calibration, and Maintenance operations from its present "29" basement location into approximately 14,000 square feet on the main factory mezzanine. Over 80 floor mounted testers, temperature chambers, small machining equipment, a spray booth, storage racks, shelving units and miscellaneous work stations and bench mounted equipment will be relocated to the new area. The vacated floor space will become a Safe Shutdown area planned for return to GSA.

8. Project Description, Justification and Scope (Continued)

Nose Assembly Manufacturing

This subproject consolidates Radar Nose Assembly operations into a single 5,000 square foot location on the factory mezzanine. The currently occupied area directly north of the main facility will be vacated, with some equipment moving from this area to the south room. Testers, temperature chambers, power regulating equipment, a spray booth, multiple work stations and bench mounted equipment will be relocated to the south room. The 4,700 square foot north room will be retained in the main plant as unallocated floor space.

Electronics Operations Lab

An existing 7,000 square foot electronics lab area on the main plant mezzanine will be rearranged and much of the area cleared of excess equipment to allow for the consolidation of other electronics equipment located in outlying lab areas. Over 50% of existing area work benches, storage cabinets, shelving units and miscellaneous bench mounted equipment will be excessed. Relocation of equipment and consolidation of the electronics labs will streamline operations and allow the other plant areas to be freed up for other space allocations. This subproject will be worked in conjunction with the Electronic Radar Microelectronics Lab project.

Electronic Radar Microelectronics Lab

The scope of this subproject of the electronics project is limited to moderate demolition work which includes removal of area banker partitions, bench piping and electrical utilities, and excessing of several area work benches. Part of the area's existing vinyl asbestos floor tile and asbestos mastic will be removed and new conductive tile installed in its place. This subproject will be worked in conjunction with the Electronics Operations Lab subproject.

Clear Mezz Laydown Area

The current Firing Systems Engineering office area located on the northwest corner of the mezzanine will be cleared of existing walls, partitions, and wall mounted piping and electrical utilities. Unnecessary overhead suspended ceilings, ductwork, sprinkler piping, light fixtures, cable

8. Project Description, Justification and Scope (Continued)

trays, PA speakers and security motion detectors will also be removed. After this demolition work is complete, the area will be made available for construction subcontractor staging.

• **Mechanical Business Unit (MBU) Subprojects**

Mechanical Welding
This subproject will permit an extensive rearrangement of manufacturing and inspection equipment including laboratories to be made to consolidate operations within a common area of approximately 11,000 square feet to achieve operating efficiencies and enhanced utilization of floor space.

Sheet Metal Fabrication and Mechanical Assembly
Sheet Metal Fabrication and Mechanical Assembly, D/45 equipment and offices will be rearranged to accommodate reduction in floor space. The overall area will be reduced in size from 13,000 square feet to 8,700 square feet.

Electromechanical Assembly
The Electromechnical Assembly process will be consolidated into approximately 25,000 square feet of floor space, reduced from its current level by about 20 percent. Most of the space eliminated will be west of the 29 aisle and will be vacated by relocating squib valves and the EB welder to the new reservoir facility and by eliminating equipment and consolidating operations to the main assembly area. The main assembly facility will be consolidated to improve efficiency of operations by modernizing its clean room operations, installing a new Class 100,000 clean room and replacing outdated air handling systems. The subproject will be phased as required to maintain production operations. Temporary relocation of equipment and personnel will be necessary to facilitate room rearrangements and construction within the existing assembly facility.

Heat Treat and Abrasive Blasting
This subproject relocates the heat treat and abrasive blasting operations from its current location on the northwest factory floor to an area northwest of the east perimeter wall of the main factory. The department will excess some equipment no longer needed to support production and consolidate the retained equipment and processes into the new location in a reduced area size from 19,000 to 16,500 square feet.

8. Project Description, Justification and Scope (Continued)

Model Shop/Tool Room

The Model Shop and Tool Room mechanical assembly operations will be relocated and consolidated into 34,000 square feet. This will downsize facilities and release space west of the factory "29" aisle to GSA. A significant number of heavy machines and support equipment will be relocated from the west side of the "29" aisle and consolidated into three existing areas west of the aisle. Over 250 items of manufacturing equipment, storage racks, and operator work stations will be relocated. Another 182 machines will remain on the west side to be excessed. The larger pieces of equipment will be relocated and several will require new foundations or isolation pads.

Mechanical Machining

The Mechanical Machining Consolidation subproject will relocate a significant number of machines and accessories from the D/20 Heavy Machining and Inspection areas to 67,000 square feet of existing floor space within the D/93 Precision Machining and D/95 Light Machining areas. The entire heavy machining area of approximately 36,000 square feet will be vacated to accommodate relocation of stores operations. This subproject will provide facility modifications to allow all major machining operations to be integrated into a central plant facility site. The elimination of equipment duplication and reallocation of reduced resources into consolidated machining operations will produce cost effective production efficiencies and improved plant-wide space utilization. This subproject will be phased to allow for continuous operation within the existing affected departments.

TSD Products

The TSD manufacturing area supports the secure transportation requirements of the DOE Transportation Division. The SGT assembly and sheetmetal/special welding processes will be consolidated into the existing secure assembly facility. Construction work in the existing consolidated area will be limited to an 8-foot high steel tube and coreboard enclosure for the welding system and installation of a new foundation pad for the relocated break press. Minor mechanical and electrical utilities work will be required to reconnect the relocated equipment from nearby sources.

Mechanical Support Laboratories

Mechanical Engineering C and H Laboratories will be consolidated into a smaller area under the factory mezzanine and in the Development and Prototype Facility (BARN) on the main factory floor. The 500 square foot area under the mezzanine will be a computer lab and the BARN area will be the Special Products and Fiber Optics Laboratory.

8. Project Description, Justification and Scope (Continued)

Safe Shutdown of Precision Microfinishing and Special Processing, Department 96
This department will be phased out with this subproject. The materials, supplies, tooling, gages, fixturing, and furniture, will be removed from the area, and remaining equipment will be de-energized and excessed or relocated as required.

Safe Shutdown of Special Processes Building, Department 96
Following completion of current War Reserve production schedules in FY 2002, building 96 will be shutdown in a safe process during FY 2003. The physical shutdown of building 96 will be the disconnection of power to the equipment and the termination of all utilities to the area. A standard final utility shutdown will need to occur for all electrical, water, stream, sewer, telecommunications and other services to the building.

• **Engineered Materials Business Unit (EMBU) Subprojects**

Plastic Molding and Filled Elastomers
The purpose of this subproject is to consolidate plastics and elastomer production processes into a single location. Filled Elastomers, D/37B operations will be relocated into existing Plastic Molding, D/26 facility space to achieve integration of similar production work. The existing filled elastomers facility will make space available for Enduring Stockpile storage. Space in D/26 will be available as the result of the relocation of one injection molding press within another D/26 area and the removal of three large molding presses to excess storage. This space, in addition to some future vacant space, will be utilized for relocated D/37B roll mills, vacuum ovens, a twin shell blender, sterlco heaters, and miscellaneous bench mounted equipment and work stations. Remedial measures will be undertaken to remove PCB contaminates during demolition of a former rail/dock well/utility plenum. Injection modeling equipment will be cleared prior to relocation.

Cellular Silicone Facility
This subproject consolidates two remote Cellular Silicone operations to an area adjacent to the main facility The consolidation will promote operating efficiencies and enhance plant floor space utilization. Existing process equipment including a screener, platform scale, a vacuum system, package air handling unit, and miscellaneous factory furnishings will be relocated from D/37S.

8. Project Description, Justification and Scope (Continued)

Foam Products

The existing Foam Products area processes will be rearranged and consolidated into two manufacturing "cells," totaling 6,200 square feet. Area equipment such as curing ovens, foam dispensers, plasma cleaners, fume hoods, a spray booth, miscellaneous work stations and bench mounted equipment will be rearranged within the existing area floor space. Efficiencies in operating processes and floor space utilization will be realized.

Plastics Machining and Inspection

The existing Plastics Machining and Foam/Plastic Inspection area equipment and production processes will be rearranged and consolidated within an existing manufacturing area of approximately 24,000 square feet. Efficiencies in operating processes and floor space utilization will be realized as a result of the consolidation of these operations.

Desiccants/Polymers

The Getter, Desiccant and Laminate Fabrication facility (D/49) area equipment and production processes will be relocated and consolidated in concert with the rearrangement and consolidation of plastics production activities and technologies. These facilities will be relocated into a vacant area of approximately 8,600 square feet that will be subdivided into 10 functional production areas.

Case Assembly

The Special Plastics Case Assembly (D/47) area equipment and production processes will be relocated and consolidated in concert with the rearrangement and consolidation of plastics production activities and technologies. As a result of the relocation, the former D/47 floor space (approximately 16,000 square feet) will become a give-back area.

Nuclear Grade Steel

The Nuclear Grade Steel Inspection facility provides testing and storage of nuclear grade steel. The new facility location will be in the 3,000 square foot main factory area currently occupied by the heavy machining inspection facility, which is planned for relocation.

NDT Labs

This subproject covers the rearrangement of two departments, Ultrasonic Testing and X-ray operations. Four X-ray fixtures will be relocated from the Filled Elastomers (D/37B) into two new x-ray rooms to be constructed inside the existing facility. An existing equipment room will be converted into a dark room.

8. Project Description, Justification and Scope (Continued)

Centrifuges and Small Parts Storage Facilities
The Technology Transfer Center (TTC) will be vacated for return to GSA prior to start of this subproject. Two centrifuges, currently located in the basement of the TTC will be relocated to within close proximity of environmental and engineering lab facilities within the Manufacturing Support Building.

• **Support Operations (SO) Subprojects**

Separation Walls and Roof Fence Line
Factory and basement separation construction work includes demolition of existing non-rated and 2-hour rated walls. Existing 4-hour rated walls on the factory floor separation path will require backfilled openings, and in some cases replacement fire doors and double pass pedestrian fire exit doors with security interlocks. A 4-hour MFL separation wall will be constructed in the plant factory basement from Q26 on the north, south to the N column line and west to the air handling plenum at N31-1/2. A fenced-in storage area will be constructed east across the "29 tunnel" in a future GSA area to allow for the relocation of miscellaneous cafeteria equipment and accessories. A maintenance buildings and grounds crib and a Metrology cold storage unit will also be relocated. The existing rooftop separation fence line between GSA and KCP will be relocated. A new 8-foot high chain link fence with concertina wire will be installed and generally follow a path from the existing north plant security station up to the roof line and south to the front office. Security gates will be installed at strategic intervals in the new fence line. The existing perimeter fence line will be maintained around the outbuildings adjacent to the main plant.

Utilities Separation
This subproject will require a separation of utility systems between GSA and the KCP so that both plants can operate independent of one another except for KCP's continuing maintenance of the West Boiler House. The subproject encompasses utility systems along the new GSA/KCP building separation line from column A-25 on the south to Q-20 on the north, including factory basement and office areas.

Special Packaging Annex
The Special Packaging Annex is responsible for the performance of special classified processing, followed by area packaging. The facility will maintain its current level of security, environment and existing area of 1,600 square feet. The facility is being relocated to maintain close support of the main Packaging Facility.

8. Project Description, Justification and Scope (Continued)

Stores, Non-Production and Test Equipment
Stores operations will be combined and reduced in size for bulk materials, non-production material and test equipment. The existing and new stores areas will have segregation of production and non-production material. Support Stores is presently proposed to occupy the new 4,500 square foot crib on the factory mezzanine at column MP-42.

Stores, Production and Non-Production
Stores operations will be combined and reduced in size for bulk materials, production and non-production material. Existing storage racks will be dismantled at their existing locations, relocated and reassembled the new designated stores facility.

Stores, production and Non-Production and Durable Tool
Stores operations will be combined and reduced in size for bulk materials, production and non-production material. The existing and new stores areas will have segregation of production and non-production material. The reconfiguration will utilize existing perimeter walls and doors.

Shipping, Receiving, Packaging, and Dock
These operations will be consolidated into one common area of approximately 25,000 square feet. Packaging and shipping equipment including work benches, shelving units, and pallet racks, and similar equipment for Receiving, will all be relocated to the new location. Office work stations and equipment for each function will also be relocated.

West Data Center
This subproject is to relocate computer systems in the west side data center to the east center. The existing west side center will become a safe shutdown area and the vacated facility turned over to GSA.

Design Gage Storage Crib
The Design Gage Crib stores plant tooling and gage testing devices serving a wide variety of manufacturing operations. To accommodate the requirements to downsize plant-wide operations the gage crib will be relocated into a smaller space (from 17,00 square feet to 5,000 square feet). The new location will be in the Manufacturing Support Building (MSB) in the former east dock area. Storage racks, shelving units, work tables, a platform lift and a jib crane will be relocated.

8. Project Description, Justification and Scope (Continued)

Maintenance

The purpose of this subproject is to relocate and consolidate maintenance operations currently occupying approximately 170,000 square feet. The main maintenance facility shop operations in factory bays FY 18-28 and outlying cribs will be relocated from the west side to 8 other existing plant areas achieving a reduced occupancy of approximately 67,000 square feet. The vacated area will become a safe-shutdown area designated for return to GSA. Approximately 460 equipment and miscellaneous shop items will be relocated and about the same number excessed.

Office Consolidations

Engineering and support offices such as Quality, Compensation, Facilities Engineering, Personnel Administration, Environment Safety and Health, Employment and Technical Security, will be efficiently consolidated and/or downsized. This consolidation allows for enhanced utilization of floor space, equipment, and personnel and will occur in the Main Manufacturing and Manufacturing Support Buildings in the retained footprint. The existing office area on the main factory floor will be reduced in size to accommodate continuation and widening of an east to west aisle along the "F" column line. Designated office areas in the basement and on the first and second floors which will no longer be required to support the defense program mission and are west of the proposed separation boundary will undergo safe shutdown for eventual transfer to GSA. The basement lobby will be rearranged to accommodate uncleared personnel access.

Enduring Stockpile

The purpose of this subproject is to provide fire-rated enclosures to limit the Maximum Foreseeable Loss (MFL) in accordance with DOE dollar limits. Sites will be provided for a proposed short-term storage of DOE-managed Enduring Stockpile materials. Approximately 105,000 square feet of plant floor space within the new boundaries derived from the facility consolidations will be allocated to storage of these materials. Thirteen plant areas will be dedicated to this purpose and will be upgraded in place to meet the enduring stockpile storage criteria.

Transportation

The plant transportation department will be relocated from its present location adjacent to welding operations to an area under the factory mezzanine of approximately 3,000 square feet. This move will allow additional floor space for the consolidation of Welding and relocation of Heat Treat and Abrasive Blasting into this vicinity. The new location will be prepared to provide for vehicle storage, and a new supervisor's office, a dispatch control center, conference area. Miscellaneous tables, storage cabinets, office furnishings, and computer equipment will be relocated to the new area.

Waste and Excess Property Management

This department will be rearranged and consolidated into a reduced size. Department offices and associated furnishings will be relocated from the area north of the main entry aisle to the test cells to the south side.

1. Title and Location of Project:	Stockpile Management Restructuring Initiative Kansas City Plant, Kansas City, Missouri (continued)	2a. Project No.: 99-D-127 2b. Construction Funded

9. Details of Cost Estimate: b/

		Item Cost	Total Cost
a.	Design and Management Costs		$ 18,215
	(1) Engineering design and inspection at approximately 24 percent of construction costs (Item c)	$11,415	
	(2) Construction management costs at 5 percent of construction costs	2,370	
	(3) Project management at 9.3 percent of construction costs (Item c)	4,430	
b.	Land and land rights		0
c.	Construction costs		47,855
	1. Improvements to land	47,855	
	2. Buildings	0	
	3. Special Equipment	0	
	4. Utilities	0	
	5. Demolition	0	
d.	Standard equipment		35,373
e.	Major computer items		0
f.	Removal cost less salvage		0
g.	Design and project liaison, testing, checkout and acceptance		0
h.	Subtotal (a through g)		$101,443
i.	Contingencies at approximately 20.8 percent of above costs		21,057
j.	Total line item cost (Section 11.a.1.(a))		$122,500
k.	LESS: Non-Federal contribution		0
l.	Net Federal total estimated cost (TEC)		$122,500

b/ The Conceptual Design Report was completed in March 1997. Escalation is calculated to the midpoint of each activity. The escalation rates used were provided by the Independent Cost Estimating Group dated January 1997. Overhead estimates were calculated at a factor of 14 percent for procurement and 85 percent for internal labor.

10. Method of Performance

Design and inspection will be performed under KCP negotiated architect-engineer contract. Construction will be accomplished by fixed-price contract awarded after competitive proposals and administered by the KCP.

1. Title and Location of Project:	Stockpile Management Restructuring Initiative Kansas City Plant, Kansas City, Missouri (continued)	2a. Project No.: 99-D-127 2b. Construction Funded

11. Schedule of Project Funding and Other Related Funding Requirements

	Prior Years	FY 1997	FY 1998	FY 1999	FY 2000	Outyears	Total
a. Total project costs							
1. Total facility costs							
(a) Line item (Section 9.j.)	$ 0	$ 0	$ 0	$ 3,000	$ 14,000	$105,500	$122,500
(b) Plant, Engineering and Design (PE&D)	0	0	0	0	0	0	0
(c) Operating expense funded equipment	0	0	0	0	0	0	0
(d) Inventories	0	0	0	0	0	0	0
(e) Total facility costs (Federal and Non-Federal)	$ 0	$ 0	$ 0	$ 3,000	$ 14,000	$105,500	$122,500
2. Other project costs							
(a) R&D necessary to complete project	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
(b) Conceptual design cost	400	600	0	0	0	0	1,000
(c) Decontamination and Decommissioning (D&D) c/	0	0	0	0	0	0	0
(d) NEPA documentation costs	0	0	0	0	0	0	0
(e) Other project related costs	715	600	1,688	2,122	2,346	8,529	16,000
(f) Total other project costs	$ 1,115	$ 1,200	$ 1,688	$ 2,122	$ 2,346	$ 8,529	$ 17,000
(g) Total project costs	$ 1,115	$ 1,200	$ 1,688	$ 5,122	$ 16,346	$114,029	$139,500
(h) LESS: Non-Federal contribution	0	0	0	0	0	0	0
(i) Net Federal total project costs (TPC)	$ 1,115	$ 1,200	$ 1,688	$ 5.122	$ 16,346	$114,029	$139,500

c/ Assumptions for reduced operating costs are provided in the SSM PEIS and AIP and assume expense dollars are availale for outyear decontamination and decommissioning activities.

1. Title and Location of Project:	Stockpile Management Restructuring Initiative Kansas City Plant, Kansas City, Missouri (continued)	2a. Project No.: 99-D-127 2b. Construction Funded

11. Schedule of Project Funding and Other Related Funding Requirements (Continued)

b. Related annual costs (estimated life of project--20 years) c/

1.	Facility operating costs	$ 0
2.	Facility maintenance and repair costs	0
3.	Programmatic operating expenses directly related to the facility	0
4.	Capital equipment not related to construction but related to the programmatic effort in the facility	0
5.	GPP or other construction related to programmatic effort in the facility	0
6.	Utility costs	0
7.	Other costs	35,598
	Total related annual costs	$ 35,598

12. Narrative Explanation of Total Project Funding and Other Related Funding Requirements

a. Total project funding

1. Total facility costs
   (a) Line item -- $122,500,000.
   (b) PE&D -- None.
   (c) Operating expense funded equipment -- None.
   (d) Inventories -- None.
2. Other project costs
   (a) R&D necessary to complete construction -- None.
   (b) Conceptual design -- Approximate cost to prepare the Conceptual Design Report, $1,000,000.
   (c) Decontamination and Decommissioning (D&D) -- $0. c/
   (d) NEPA documentation -- None.
   (e) Other project related funding -- These costs include pre-Title I activities, construction support, beneficial occupancy inspection, operational readiness reviews, and other activities, $16,000,000.

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c/ Assumptions for reduced operating costs are provided in the SSM PEIS and AIP and assume expense dollars are availale for outyear decontamination and decommissioning activities.

12. Narrative Explanation of Total Project Funding and Other Related Funding Requirements (Continued)

b. Related annual costs c/
   1. Facility operating costs -- None.
   2. Facility maintenance and repair costs -- None.
   3. Programmatic operating expenses directly related to the facility -- None.
   4. Capital equipment not related to construction but related to the programmatic effort of the facility -- None.
   5. GPP or other construction related to the programmatic effort -- None.
   6. Utility costs -- None.
   7. Other Costs -- $32,598. These costs include component prebuild, transfer inventory, transfer documents, tools, gauges, and test equipment, process transfer, staff, process requalification, workforce restructuring, facility shutdown, and excess facilities disposition plan.

c/ Assumptions for reduced operating costs are provided in the SSM PEIS and AIP and assume expense dollars are availale for outyear decontamination and decommissioning activities.

DEPARTMENT OF ENERGY
FY 1999 CONGRESSIONAL BUDGET REQUEST

WEAPONS ACTIVITIES
(Tabular dollars in thousands. Narrative material in whole dollars.)

Weapons Stockpile Management

1.	Title and Location of Project:	Replace Boilers and Controls Kansas City Plant, Kansas City, Missouri		2a. Project No.: 99-D-125 2b. Construction Funded
		Preliminary Schedule	Title I Baseline	Current Baseline Schedule
3a.	Date A-E Work Initiated (Title I Design Start Scheduled):	2nd Qtr. FY 1999		
3b.	A-E Work (Titles I & II) Duration:	15 months		
4a.	Date Physical Construction Starts:	4th Qtr. FY 2000		
4b.	Date Construction Ends:	4th Qtr. FY 2002		
		Preliminary Estimate	Title I Baseline	Current Baseline Estimate
5.	Total Estimated Cost (TEC) --	$ 14,000		
6.	Total Project Cost (TPC) --	$ 14,400		

1. Title and Location of Project:	Replace Boilers and Controls Kansas City Plant, Kansas City, Missouri (continued)	2a. Project No.: 99-D-125 2b. Construction Funded

7. Financial Schedule (Federal Funds):

Fiscal Year	Appropriations	Adjustments	Obligations	Costs
1999	$ 1,000	$ 0	$ 1,000	$ 500
2000	13,000	0	13,000	500
2001	0	0	0	6,000
2002	0	0	0	6,900
2003	0	0	0	100

8. Project Description, Justification and Scope

This project will renovate and upgrade the existing steam generating facility located at the West Boilerhouse. This project removes four 100,000 PPH (Pound per Hour) boilers, boiler control panels and boiler annunciator panels, water softeners, polisher, pumps, forced draft fans, deaerator, piping, controls, and other existing ancillary boiler support equipment, and replaces them with new equipment including new microprocessor-based control panels and a boiler control room containing annunciator panels and system status indicators, in the same general location. The project will essentially be a one-for-one replacement with slightly reduced overall generating capacity; it will provide system improvements to reflect current technology.

The new boilers will be designed to efficiently and cleanly burn natural gas or No. 2 fuel oil. The burner assembly will contain a ring for natural gas and main and auxiliary fuel oil guns. The main fuel will be natural gas with No. 2 fuel oil as backup. Automatic and continuous blowdown systems, stack opacity monitoring, oxygen monitoring, steam, gas, and oil flow meters, draft fans, drum level fuel and draft controls will be included as well as feedwater pumps and a deaerator. The boiler controls will be microprocessor-based direct digital and will include all safeties. The system is to come complete with heat recovery equipment and controls that are technologically and economically feasible such as economizers and blow down heat recovery. A method to protect the boiler when off line will also be included. Low nitrogen oxide (NOx) burners will be evaluated, and continuous environmental monitoring of NOx and sulphur dioxide (SO2) will be included as required by the 1990 revisions to the Clean Air Act.

Controls work will consist of the replacement of control components, boiler control panels, annunciator panels in the control room, and installation of a system schematic wall. Control valves will be installed on feedwater, natural gas and fuel oil, and will include positioners, air locks and limit switches. A vortex meter will be installed on each natural gas line. Self-calibrating opacity monitors will be installed on the

8. Project Description, Justification and Scope (Continued)

stacks and continuously monitor stack conditions. The oil, gas trains, and boiler installation will be designed in compliance with National Fire Protection Association (NFPA) 8501.

The equipment in the control room will consist of an industrial grade console computer system, with a high resolution color monitor, laser printer and data logger. The computer will be supplied complete with software, manuals, graphics and reporting capabilities and efficiency calculations.

The control room will include a floor to ceiling wall panel showing schematics of the boilerhouse steam system. This schematic will use replaceable color tiles and LEDs or a projection screen near each piece of equipment to show equipment status on items such as pressure, temperature and flow. The control room will contain two work stations to control the boilers. The work stations will contain multiple computer screens to display alarms and the boilers operating conditions. The screens will be touch sensitive to acknowledge the alarms.

The old boilers will be dismantled and removed in pieces. The overhead door on the west side of the West Boilerhouse will be removed and replaced with masonry compatible with the existing building. A new permanent wall opening will be created to facilitate the removal of the scrap boilers and to allow the new, factory assembled boilers and other ancillary equipment to be moved into place. Equipment located in the basement will be moved via the well opening on the southwest corner of the building.

The project is planned to start in the early spring with construction to be staged so that steam production to the plant will not be interrupted for significant periods of time. The general plan will be to remove two boilers from either the north or south end of the building, install two new boilers and bring them on line. Then remove and replace the other two boilers. Preparatory work such as construction of the new steam headers, deaerator, feedwater piping and work on other support systems will be done to the extent possible before demolition of the boilers begins.

Energy Conservation Analysis

Economizer will be included in this project to preheat the feedwater. This system will reclaim heat from the boiler exhaust stream to heat the feedwater before it enters the deareator.

8. Project Description, Justification and Scope (Continued)

Blow down heat recovery will be included in this project. Heat exchangers will recover heat from the blow down water. This heat will be used to preheat the make up water.

During Title I design, variable frequency drives (VFDs) will be evaluated for use with the induced draft fans. The use of VFDs will be based on Life Cycle Cost Analysis and design issues.

Background

The West Boilerhouse at the Department of Energy (DOE), Kansas City Plant (KCP), provides steam for heating, humidity control, and manufacturing processes for tenants of the Bannister Federal Complex. These tenants include the DOE, the General Services Administration (GSA), the Internal Revenue Services (IRS), the Federal Aviation Administration (FAA), the Department of Agriculture (DOA) and the Marine Corps. The steam from this boilerhouse is the only available source of heat for all of these tenants.

Although originally rated at 100,000 pounds per hour, the existing boilers can only achieve 80,000 to 90,000 pounds per hour for any sustained period of time due to their age and deteriorated condition. The boilers are unreliable, mechanically deteriorated, technologically obsolete, and spare parts are not readily available. These boilers must be replaced if the reliability of the steam plant is to be assured.

The bulk of steam generated by these boilers is consumed by the DOE's KCP in meeting it's critical Defense Programs (DP) mission. However, the other federal tenants have critical loads of their own, for which they reimburse the DOE based on memoranda of understanding with DOE.

The boilers were installed in the early 1970's (completion of project in 1974), under a contract administered by GSA. The GSA procedure was to issue a contract to a General Contractor who in turn purchased boilers, burners, controls and accessories and assembled these components on site to provide a complete and working system. The GSA specified system performance and did not detail or specify individual component parts such as burners and controls. To minimize cost and expedite construction, the forced draft fans from the original 1942 boiler system were reused in the installation. The general contractor had no previous experience with plant steam systems and/or boilers. This less than ideal situation was further aggravated when the general contractor went into bankruptcy about two-thirds of the way through the contract. GSA provided additional funds to assure the completion of the project, however, since this was going to be the contractor's last job and all profits were to go to the bankruptcy proceeding, there was little incentive for quality work.

8. Project Description, Justification and Scope (Continued)

Tube Failure

All four boilers in the West Boilerhouse have had a history of excessive tube failure. The fly ash residue created by the poor selection of burners has permeated the refractory in the bottom of the boilers so that over a period of time the tubes in the bottom of the boilers and at the tube connection to the mud drum were packed with the fly ash. Fly ash by nature is hygroscopic and any introduction of moisture, whether from airborne moisture or tube leaks, rapidly finds its way to the fly ash. This fly ash produces an acid compound that attacks the exterior of the tubes. Moisture is trapped between the refractory and the tubes. Historically, the tube failures in these boilers have in almost all cases been in locations where the tube is buried in refractory.

The history of tube failures began almost at the boiler start up. The rate of failure has accelerated so that since 1992, over 2,000 tubes have been replaced in the four boilers. Between 1991 and 1995 there have been eleven separate occurrences of boiler tube leaks with an average down time per leak of between one and two months. A project to retrofit the burners so that number 2 fuel oil is used as the backup fuel was completed in the late 1980's. This has reduced fly ash buildup, but does little to repair already damaged tubes or reduce the residual fly ash in the refractory left by years of using number 6 fuel oil.

Refractory Problems

The boilers have also experienced a history of refractory failure. The refractory on the front section of the boilers was originally poured in place and cured while the panel was in a horizontal position. When the refractory was cured, the panel was erected and connected to the boiler body. This procedure has not proven to be satisfactory and is no longer used by Riley Stoker. Over time the front refractory separated from the boiler wall and allows flames to enter the space between the refractory and the boiler shell. The front refractory has been repeatedly repaired on all four boilers. New methods of refractory application have been developed which have reduced but not eliminated the problem. Refractory tile at the throat of the burners are also a maintenance problem and have to be replaced repeatedly.

Controls & Air Emissions

The controls for these boilers were technologically obsolete when the system was originally installed. The boiler controls are electro-pneumatic technology. The new standard for boiler controls that was making rapid transitions into the industry when the boilers were installed in 1974 was all electric/electronic based controls. The controls, when they were installed on the Kansas City Plant boilers, were the last

8. Project Description, Justification and Scope (Continued)

generation of old, electro-pneumatic technology produced by Hays Republic, the controls manufacturer. Hays Republic has not been able to furnish replacement repair parts for many of the control components since the mid-1980's. It is becoming increasingly difficult to find repair parts and it is estimated that within 5 years, no spare parts will be available. The controls have deteriorated and now drift from the control set point and require continuous resetting . Because of the age and condition of the controls, failure of component parts is common. These failures can and often do alter the combustion process to the point that air emissions are outside of KCP's permitted values. Failure of a control component in 1992 caused an out of compliance condition on opacity (visual emissions), which resulted in a notice of violation being issued by the city of Kansas City, Missouri. The KCP air emissions are permitted by the Kansas City Air Board and must meet Federal EPA Regulations (40 CFR 60, Appendix B, Sec. 1.), Missouri State Regulation (10 CFR 10-2.06), and Kansas City, Mo. Regulations (section 18.86.D). It is predicted that without new controls, the existing boilers will experience repeated out of compliance conditions as the existing controls continue to age and malfunction.

Deaerator

The existing deaerator was installed during the 1970's. The deaerator removes dissolved gases, primarily oxygen, from the feedwater prior to it entering the boilers. This process protects and prolongs the life of boilers and piping system. There is a very limited capability to fire the boilers if this unit is out of service. The deaerator has experienced accelerated deterioration that has repeatedly required work to repair chemical stress cracking to the unit. The corrosion in the deaerator has gotten to the point where frequent repairs are necessary. In the event of a failure of this component, prolonged firing of the boiler on untreated water would significantly damage the already deteriorated boilers and piping systems.

Ancillary Problems

In general the ancillary equipment such as piping, softeners, polishers, fans and pumps is in a deteriorated condition. Maintenance on this equipment is increasing with mean time between failures decreasing. All systems have obsolete technology and the acquisition of repair parts continues to be a problem -- especially for the boiler feed water pumps and softener controls.

8. Project Description, Justification and Scope (Continued)

Implications

The existing boilers are deteriorated beyond a point where normal repair and maintenance is cost effective; reliability of the steam plant can not be assured. Repairs of the boilers and ancillary equipment would require replacement components and many exact replacements are no longer available. It will require significant engineering design support to retrofit other components in areas where original replacements are not available.

Significant deterioration to boiler tubes and internals is so extensive that the only adequate repair would be a complete tube replacement. This would be very costly and would not put the boiler in a like new condition. Release of industrial waste from a ruptured pipe would most likely enter the plant sanitary sewer system. This occurrence would cause the plant to be in violation of permit.

If a reliable steam supply is to be maintained, it is essential that these boilers be replaced as soon as possible. Failure to replace the existing boilers will subject the KCP to an unacceptable risk of inadequate and unreliable steam supply.

This project is in accordance with current mission needs and is being coordinated with the Stockpile Management Restructuring Initiative.

1. Title and Location of Project:	Replace Boilers and Controls Kansas City Plant, Kansas City, Missouri (continued)	2a. Project No.: 99-D-125 2b. Construction Funded

9. Details of Cost Estimate a/

		Item Cost	Total Cost
a.	Design and Management Costs		$ 1,350
	(1) Engineering design and inspection at approximately 9 percent of construction costs (Item c) (Design, Drawings, and Specifications: $297,000)	$ 997	
	(2) Construction management costs	163	
	(3) Project management at 2 percent of construction costs (Item c)	190	
b.	Land and land rights		0
c.	Construction costs		10,738
	1. Improvements to land	0	
	2. Buildings	0	
	3. Other structures	0	
	4. Utilities	10,738	
	5. Special Facilities	0	
d.	Standard equipment		0
e.	Major computer items		0
f.	Removal cost less salvage		0
g.	Design and project liaison, testing, checkout and acceptance		0
h.	Subtotal (a through g)		$ 12,088
i.	Contingencies at approximately 16 percent of above costs		1,912
j.	Total line item cost (Section 11.a.1.(a))		$ 14,000
k.	LESS: Non-Federal contribution		0
l.	Net Federal total estimated cost (TEC)		$ 14,000

a/ Anticipated economic escalation rates are as follows: FY 1998 is 2.2 percent; FY 1999 is 2.4 percent; FY 2000, FY 2002, FY 2003 are 2.8 percent, and FY 2001 is 2.1 percent.

10. Method of Performance

Management of this project will be performed by Allied Signal. Design and inspection will be performed under an Allied Signal-negotiated architectural-engineering subcontract. Construction will be accomplished by a fixed-price subcontract awarded on the basis of competitive proposals. A Life Cycle Cost Analysis will be used when evaluating the different boiler manufacturers. This will allow for the highest efficiency, most cost-effective system to be constructed.

11. Schedule of Project Funding and Other Related Funding Requirements

	Prior Years	FY 1997	FY 1998	FY 1999	FY 2000	Outyears	Total
a. Total project costs							
1. Total facility costs							
(a) Line item (Section 9.j.)	$ 0	$ 0	$ 0	$ 500	$ 500	$ 13,000	$ 14,000
(b) Plant, Engineering and Design (PE&D)	0	0	0	0	0	0	0
(c) Operating expense funded equipment	0	0	0	0	0	0	0
(d) Inventories	0	0	0	0	0	0	0
(e) Total facility costs (Federal and Non-Federal)	$ 0	$ 0	$ 0	$ 500	$ 500	$ 13,000	$ 14,000
2. Other project costs							
(a) R&D necessary to complete project	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
(b) Conceptual design costs.	40	0	0	0	0	0	40
(c) Decontamination and Decommissioning (D&D).	0	0	0	0	0	0	0
(d) NEPA documentation costs	0	0	11	0	0	0	11
(e) Other project related costs	50	50	54	50	50	95	349
(f) Total other project costs	$ 90	$ 50	$ 65	$ 50	$ 50	$ 95	$ 400
(g) Total project costs.	$ 90	$ 50	$ 65	$ 550	$ 550	$ 13,095	$ 14,400
(h) LESS: Non-Federal contribution	0	0	0	0	0	0	0
(i) Net Federal total project costs (TPC)	$ 90	$ 50	$ 65	$ 550	$ 550	$ 13,095	$ 14,400

11. Schedule of Project Funding and Other Related Funding Requirements (Continued)

b. Related annual costs (estimated life of project--30 years)

1.	Facility operating costs	$ 0
2.	Facility maintenance and repair costs	10
3.	Programmatic operating expenses directly related to the facility	0
4.	Capital equipment not related to construction but related to the programmatic effort in the facility	0
5.	GPP or other construction related to programmatic effort in the facility	0
6.	Utility costs	0
7.	Other costs	0
	Total related annual costs	$ 10

12. Narrative Explanation of Total Project Funding and Other Related Funding Requirements

a. Total project costs

1. Total facility costs
   (a) Line item -- Construction line item costs for engineering design, procurement, and construction costs -- $14,000,000.
   (b) PE&D -- None.
   (c) Expense funded equipment -- None.
   (d) Inventories -- None.
2. Other project costs
   (a) R&D necessary to complete construction -- None.
   (b) Conceptual design -- Estimated Cost for Conceptual Design Report -- $40,000.
   (c) Decontamination and Decommissioning (D&D) -- None.
   (d) NEPA documentation -- Estimated costs for NEPA Documentation -- $11,000.
   (e) Other project related funding -- Includes Pre-Title I activities, project support, and post-project support -- $349,000.)

12. Narrative Explanation of Total Project Funding and Other Related Funding Requirements (Continued)

b. Related annual costs

1. Facility operating costs -- None. The project does not construct a facility.
2. Facility maintenance and repair costs -- Estimated preventive maintenance and repair cost on new boilers -- $10,000/year.
3. Programmatic operating expenses directly related to the facility -- None.
4. Capital equipment not related to construction but related to the programmatic effort of the facility -- None.
5. GPP or other construction related to the programmatic effort in the facility -- None.
6. Utility costs -- Incremental costs will be zero.
7. Other Costs -- None

DEPARTMENT OF ENERGY
FY 1999 CONGRESSIONAL BUDGET REQUEST

WEAPONS ACTIVITIES
(Tabular dollars in thousands. Narrative material in whole dollars.)

Weapons Stockpile Management

1.	Title and Location of Project:	Replace Mechanical Utility Systems Oak Ridge Y-12 Plant, Oak Ridge, Tennessee		2a. Project No.: 99-D-123 2b. Construction Funded
		Preliminary Schedule	Title I Baseline	Current Baseline Schedule
3a.	Date A-E Work Initiated (Title I Design Start Scheduled):	2nd Qtr. FY 1999		
3b.	A-E Work (Titles I & II) Duration:	8 months		
4a.	Date Physical Construction Starts:	4th Qtr. FY 1999		
4b.	Date Construction Ends:	3rd Qtr. FY 2001		
		Preliminary Estimate	Title I Baseline	Current Baseline Estimate
5.	Total Estimated Cost (TEC) --	$ 7,600		
6.	Total Project Cost (TPC) --	$ 8,100		

1. Title and Location of Project:	Replace Mechanical Utility Systems Oak Ridge Y-12 Plant, Oak Ridge, Tennessee (Continued)	2a. Project No.: 99-D-123 2b. Construction Funded

7. Financial Schedule (Federal Funds):

Fiscal Year	Appropriations	Adjustments	Obligations	Costs
1999	$ 1,900	$ 0	$ 1,900	$ 800
2000	5,700	0	5,700	3,900
2001	0	0	0	2,900

8. Project Description, Justification and Scope

This project will replace several mechanical utility systems, including selected underground potable water lines located at the Y-12 Plant and demolish an old cooling tower.

Selected underground potable water mains and branch piping from mains to first shut-off valves in several buildings, including valves, fire hydrants, and all piping from mains to the fire hydrants, will be replaced.

New cooling tower water supply and return lines will be installed from cooling tower 9409-26 West to support dismantlement and stockpile management activities in the uranium fabrication facility (Building 9215). Cooling tower 9409-26 East will be demolished.

The purpose of this project is to assure the continued vital dismantlement, storage, and stockpile management capabilities presently served by these mechanical utility systems. This project is consistent with consolidation efforts at Y-12 and is required to support the plant's current mission. In replacing these systems, increased reliability and a reduction in plant operating and maintenance costs will be realized. The cumulative effects of degradation on the remaining uncorrected systems make them unreliable for present needs and often require substantial emergency effort to meet these needs.

Potable water is used throughout the Y-12 Plant for fire protection as well as domestic and process purposes. The piping and valve systems to be replaced are experiencing frequent unscheduled outages because of internal and external corrosion. The unreliable valves in the existing system have seriously degraded the ability to properly valve off areas of ruptured mains to minimize the loss of fire protection capability. Leaks from ruptured mains can cause National Pollutant Discharge Elimination System (NPDES) violations by allowing uncontrolled discharges of water and silt into East Fork Poplar Creek.

8. Project Description, Justification and Scope (Continued)

The cooling tower water supply and return piping system serving the enriched uranium area must be replaced to assure reliability in the future for cooling water requirements to process systems and to avoid unscheduled shutdowns. Currently potable water can be used for emergency shutdown of furnaces and other operations, but future use of potable water may be restricted due to the potential for an environmental insult in the East Fork of Poplar Creek by discharging of the heated water.

If this project is not funded, the Y-12 Plant will continue to rely on deteriorated mechanical utility systems that have experienced frequent breaks in the past, resulting in operational outages as well as increased maintenance problems and expense. Loss of potable/cooling water can result in extensive damage to facilities and equipment.

FY 1999 funding will be utilized for Titles I, II, and III engineering, initiating construction, and construction support activities.

1. Title and Location of Project:	Replace Mechanical Utility Systems Oak Ridge Y-12 Plant, Oak Ridge, Tennessee (Continued)	2a. Project No.: 99-D-123 2b. Construction Funded

9. Details of Cost Estimate a/

		Item Cost	Total Cost
a.	Design and Management Costs		$ 1,400
	(1) Engineering design and inspection at approximately 15.2 percent of Items c. and f. below (Design, Drawings, and Specifications: $160,000)	$ 735	
	(2) Construction management costs at approximately 7.5 percent of items c. and f. below.	365	
	(3) Project management at 6.2 percent of construction costs of Items c. and f. below	300	
b.	Land and land rights	0	
c.	Construction costs		4,850
	1. Improvements to land	0	
	2. Buildings and building modification	4,850	
	3. Special equipment (including gloveboxes and tritium handling equipment)	0	
	4. Utilities	0	
	5. Demolition	0	
	6. Service equipment	0	
d.	Standard equipment.		0
e.	Major computer items		0
f.	Removal cost less salvage		0
g.	Design and project liaison, testing, checkout and acceptance		0
h.	Subtotal (a through g)		$ 6,250
i.	Contingencies at approximately 21.6 percent of above costs		1,350
j.	Total line item cost (Section 11.a.1.(a))		$ 7,600 b/
k.	LESS: Non-Federal contribution		0
l.	Net Federal total estimated cost (TEC)		$ 7,600

a/ These estimates are based on a conceptual design completed February 1997.

b/ Applicable escalation rates are taken from the DOE escalation multipliers issued January 1997. The escalation rates were based on escalation of 2.6 percent in FY 1997, 2.2 percent for FY 1998, 2.4 percent for FY 1999, 2.8 percent for FY 2000, and 2.7 percent for FY 2001.

10. Method of Performance

Engineering will be performed by the Facilities Manager as most of the design can be provided by modifying and upgrading the existing design which was not constructed. Construction and procurement will be accomplished with a construction manager using fixed-price subcontractors and direct hire workers.

11. Schedule of Project Funding and Other Related Funding Requirements

	Prior Years	FY 1997	FY 1998	FY 1999	FY 2000	Outyears	Total
a. Total project costs							
1. Total facility costs							
(a) Line item (Section 9.j.)	$ 0	$ 0	$ 0	$ 800	$ 3,900	$ 2,900	$ 7,600
(b) Plant, Engineering and Design (PE&D)	0	0	0	0	0	0	0
(c) Operating expense funded equipment	0	0	0	0	0	0	0
(d) Inventories	0	0	0	0	0	0	0
(e) Total facility costs (Federal and Non-Federal)	$ 0	$ 0	$ 0	$ 800	$ 3,900	$ 2,900	$ 7,600
2. Other project costs							
(a) R&D necessary to complete project	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
(b) Conceptual design costs	200	0	0	0	0	0	200
(c) Decontamination and Decommissioning (D&D)	0	0	0	0	0	0	0
(d) NEPA documentation costs	20	0	0	0	0	0	20
(e) Other project related costs	180	20	20	30	30	0	280
(f) Total other project costs	$ 400	$ 20	$ 20	$ 30	$ 30	$ 0	$ 500
(g) Total project costs.	$ 400	$ 20	$ 20	$ 830	$ 3,930	$ 2,900	$ 8,100
(h) LESS: Non-Federal contribution	0	20	20	0	0	0	0
(i) Net Federal total project costs (TPC)	$ 400	$ 20	$ 20	$ 830	$ 3,930	$ 2,900	$ 8,100

1. Title and Location of Project:	Replace Mechanical Utility Systems Oak Ridge Y-12 Plant, Oak Ridge, Tennessee (Continued)	2a. Project No.: 99-D-123 2b. Construction Funded

11. Schedule of Project Funding and Other Related Funding Requirements (Continued)

b. Related annual costs (estimated life of project--30 years)

1.	Facility operating costs	$ 0
2.	Facility maintenance and repair costs	50
3.	Programmatic operating expenses directly related to the facility	0
4.	Capital equipment not related to construction but related to the programmatic effort in the facility	0
5.	GPP or other construction related to programmatic effort in the facility	0
6.	Utility costs	0
7.	Other costs	0
	Total related annual costs	$ 50

12. Narrative Explanation of Total Project Funding and Other Related Funding Requirements

a. Total project costs

1. Total facility costs
   (a) Line item -- Construction line item costs for the engineering design, procurement, demolition, and construction to replace mechanical utilities systems are estimated to be $7,600,000.
   (b) PE&D -- None.
   (c) Operating expense funded equipment -- None.
   (d) Inventories -- None.
2. Other project costs
   (a) R&D necessary to complete construction -- None.
   (b) Conceptual design -- Approximately $200,000 was incurred to develop the scope of the project.
   (c) Decontamination and Decommissioning (D&D) -- None.
   (d) NEPA documentation -- Approximately $20,000 was incurred to develop NEPA documentation.
   (e) Other project related costs --The cost for engineering and operational support activities for Y-12 Plant functions before and during design and construction will be approximately $280,000. This amount incudes the design criteria and safety documentation for the duration of the project.

12. Narrative Explanation of Total Project Funding and Other Related Funding Requirements (Continued)

b. Related annual costs
   1. Facility operating costs -- None.
   2. Facility maintenance and repair costs -- The maintenance and materials, and associated overhead, are estimated to cost about $50,000 annually.
   3. Programmatic operating expenses directly related to the facility -- None.
   4. Capital equipment not related to construction but related to the programmatic effort of the facility -- None.
   5. GPP or other construction related to the programmatic effort -- None.
   6. Utility costs -- None.
   7. Other Costs -- None.

DEPARTMENT OF ENERGY
FY 1999 CONGRESSIONAL BUDGET SUBMISSION

WEAPONS ACTIVITIES
(Tabular dollars in thousands. Narrative material in whole dollars.)

Weapons Stockpile Management

1. Title and Location of Project: Rapid Reactivation Various Locations	2a. Project No.: 99-D-122 2b. Construction Funded

SIGNIFICANT CHANGES

I. None

DEPARTMENT OF ENERGY
FY 1999 CONGRESSIONAL BUDGET SUBMISSION

WEAPONS ACTIVITIES
(Tabular dollars in thousands. Narrative material in whole dollars.)

Weapons Stockpile Management

1. Title and Location of Project: Rapid Reactivation Various Locations			2a. Project No.: 99-D-122 2b. Construction Funded
	Preliminary Schedule	Title I Baseline	Current Baseline Schedule
3a. Date A-E Work Initiated: (Title I Design Work Scheduled):	1st Qtr. FY 1999		
3b. A-E Work (Title I & II) Duration:	Various a/		
4a. Date Physical Construction Starts:	3rd Qtr. FY 1999 a/		
4b. Date Construction Ends:	4th Qtr. FY 2001 a/		
	Preliminary Estimate	Title I Baseline	Current Baseline Estimate
5. Total Estimated Cost (TEC) --	$27,000		
6. Total Project Cost (TPC) --	$33,777		

a/ Project activities will be coordinated and phased with ongoing facility operations at SNL, KCP, and LANL; most equipment requirements are drawn from reuse of preexisting equipment specifications developed for NNR.

1. Title and Location of Project: Rapid Reactivation 2a. Project No.: 99-D-122

Various Locations 2b. Construction Funded

7. Financial Schedule (Federal Funds):

Fiscal Year	Appropriations	Adjustments	Obligations	Costs a/
1999	11,200	0	11,200	6,900
2000	15,800	0	15,800	11,700
2001	0	0	0	8,400

8. Project Description, Justification, and Scope

The FY 1993 Nonnuclear Reconfiguration Project (NNR), Project Number 93-D-123, was initiated to downsize the nonnuclear manufacturing component of the nuclear weapons complex while maintaining production capacities at a certain level. The reservoir production mission was transferred to the Kansas City Plant (KCP), the neutron generator production mission was transferred to the Sandia National Laboratories (SNL), and the neutron tube target loading mission was transferred to the Los Alamos National Laboratory (LANL). The production capacity for the reconfigured production complex was based upon a START II requirement base for decreased stockpile levels, but production capacities were not impacted. Subsequent direction has required the production complex to support a START II stockpile level while protecting the capability of reconstituting back to a START I level. As a result, the KCP, SNL, and LANL submitted plans and budget requirements to acquire the increased capacity necessary to support reconstitution of START I levels.

Rapid Reactivation requirements necessitate scope of work activities as follows: (1) The LANL subproject consists of designing, constructing, and installing a third target loader within the existing space of the Neutron Tube Target Loading facility (NTTL); (2) The Kansas City Plant subproject consists of rearranging existing space in, and adding additional space to, the current Reservoir Assembly Facility, and the procurement of additional production/process equipment; and (3) The SNL subproject consists of rearranging existing space within Building 870, adding additional space in adjacent buildings, and the procurement of additional production equipment.

Incorporation of these product line enhancements into KC, SNL, and LANL facilities will be accomplished by rearranging and upgrading space within existing buildings, purchasing new product equipment, installation of some of the transferred and new equipment and associated support

1.Title and Location of Project: Rapid Reactivation 2a. Project No.: 99-D-

a/ Project activities will be coordinated and phased with ongoing facility operations at SNL, KCP, and LANL; most equipment requirements are drawn from reuse of preexisting equipment specifications developed for NNR.

8. Project Description, Justification, and Scope (continued)

systems. Due to production schedules and other time constraints, interim equipment staging and testing may precede final equipment placement and the capital interim activities associated with final placement.

Because of the work previously accomplished by NNR, the availability of adequate facilities, the ability to rearrange the existing manufacturing buildings, experience in a variety of product and procurement activities, minimal environmental concerns, and an excellent technical personnel base positions the complex to fulfill its role in nonnuclear manufacturing under "START I" requirements. The existing nuclear weapons complex was scoped under NNR using "Start II" as criteria for equipment and facility requirements. This project will increase the complex's capability to protect "Start I" requirements. Minor facility modification and additional equipment is required and, therefore, included under this line item, to increase capacity to provide "Start I" requirements.

Rapid Reactivation will make use of the FY 1993 NNR Project Development, planning and management tools and documentation to the greatest extent practical. Rapid Reactivation activities are within the activity envelope of the Environmental Assessment conducted for nonnuclear manufacturing consolidation, which resulted in a Finding of No Significant Impact. All existing environmental and safety documentation will be appropriately reviewed for currency and adequacy, updated as required.

SANDIA NATIONAL LABORATORIES NEUTRON GENERATORS FACILITIES (NGF) - TEC - $15,600,000

TEC	Previous	FY 1999	FY 2000	Outyear	Construction Start - Completion Dates
$15,600	$ 0	$ 4,830	$ 10,770	$ 0	3rd Qtr FY 1999 - 4th Qtr FY 2001

The SNL subproject consists of rearranging existing space within Building 870, adding additional space in adjacent buildings, and the procurement of additional production equipment.

KANSAS CITY PLANT: RESERVOIR ASSEMBLIES AND TESTING: TEC - $8,500,000

TEC	Previous	FY 1999	FY 2000	Outyear	Construction Start - Completion Dates
$ 8,500	$ 0	$ 5.200	$ 3,300	$ 0	3rd Qtr FY 1999 - 4th Qtr FY 2000

8. Project Description, Justification, and Scope (continued)

The Kansas City Plant subproject consists of rearranging existing space in, and adding additional space to, the current Reservoir Assembly Facility, and the procurement of additional production/process equipment.

LOS ALAMOS NATIONAL LABORATORY - NEUTRON TUBE TARGET LOADING: TEC - $2,900,000

TEC	Previous	FY 1999	FY 2000	Outyear	Construction Start - Completion Dates
$ 2,900	$ 0	$ 1,170	$ 1,730	$ 0	3rd Qtr FY 1999 - 4th Qtr FY 2000

The LANL subproject consists of designing, constructing, and installing a third target loader within the existing space of the Neutron Tube Target Loading facility (NTTL).

FY 1999 obligations will provide funding to conduct, design, and initiate procurement and construction activities.

1. Title and Location of Project: Rapid Reactivation	2a. Project No.: 99-D-122
Various Locations	2b. Construction Funded

9. Details of Cost Estimate by Site
(estimate is based on complete Conceptual Design Documentation)

	SNL	LANL	KCP
a. Engineering, design, and inspection and their percentage of construction costs, item b.....	$ 1,747 (14.8%)	$ 173 (8.0%)	$ 828 (12.0%)
b. Construction costs (incl. spec. eqmt., e.g., gloveboxes)	$11,843	$ 2,163	$ 6,902
c. Standard equipment	0	0	0
d. Other (incl. Prog & Const Mgmt)	0	300	0
Subtotal	$13,590	$ 2,636	$ 7,730
e. Contingency percent of [a+b+c+d] cost	2,010 (14.8%)	264 (10.0%)	770 (10.0%)
Total estimated construction cost (TEC) ...	$15,600	$ 2,900	$ 8,500

10 Method of Performance

Design and inspection will be performed under negotiated architect-engineer contracts or by operational contractor. Construction will be by fixed price contracts awarded after competitive proposals and administered by the DOE and Contractor staff. However, operating contractor personnel may perform design and construction roles for activities determined to be cost effective. Procurement of standard equipment will be administered by the DOE and Contractor staff on the basis of competitive proposals.

1.Title and Location of Project: Rapid Reactivation
Various Locations

2a. Project No.: 99-D-122
2b. Construction Funded

11. Schedule of Project Funding and Other Related Funding Requirements

	Previous Years	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	Outyears	Total
a. Total Project Costs								
1. Total Facility Costs								
(a) Line Item	$ 0	$ 0	$ 0	$6,900	$11,700	$8,400	$ 0	$27,000
(b) Plant Engineering & Design	0	0	0	0	0	0	0	0
(c) Operating Expenses Funded Equipment	0	0	0	0	0	0	0	0
(d) Inventories	0	0	0	0	0	0	0	0
(e) Total Facility Cost (Federal and Non-Federal) $	$ 0	$ 0	$ 0	$6,900	$11,700	$8,400	$ 0	$27,000
2. Other Project Costs								
(a) R&D Necessary to Complete Project	0	0	0	0	0	0	0	0
(b) Conceptual Design Costs	0	0	0	0	0	0	0	0
(c) Decontamination & Decommissioning (D&D).....	0	0	0	0	0	0	0	0
(d) NEPA Documentation Costs	0	0	0	0	0	0	0	0
(e) Other Project-Related Costs	$ 0	$ 0	$ 0	$ 2,547	$ 2,440	$ 1,790	$ 0	$ 6,777
Total Other Project Costs	$	$	$	$	$ 2,440	$	$	$
Total Project Costs	$	$	$	$	$ 14,140	$ 10,190	$	$ 33,777
(f) LESS: Non-Federal Contribution ..	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Net Federal Total Project Costs (TPC)	$ 0	$ 0	$ 0	$ 9,447	$ 14,140	$ 10,190	$ 0	$ 33,777

11. Schedule of Project Funding and Other Related Funding Requirements (continued)

b. Related Annual Costs (estimated life of the project--30 years)

1. Facility Operating Costs b/	
2. Facility Maintenance and Repair Costs b/	
3. Programmatic Operating Expenses Directly Related to the Facility b/	
4. Capital Equipment not Related to Construction but Related to the Programmatic Efforts in the Facility	$ 0
5. GPP or Other Construction Related to Programmatic Effort in the Facility	$ 0
6. Utility Costs	$ 0
7. Other Costs	$ 0
Total Related Annual Funding	$ 0

b/ Activities will reside within the footprint of existing facilities.

1. Title and Location of Project: Rapid Reactivation Various Locations	2a. Project No.: 99-D-122 2b. Construction Funded

12. Narrative Explanation of Total Project Funding and Related Funding Requirements

a. Total Project Funding
   1. Total Facility Costs
      (a) Line Item - $27,000,000
      (b) PE&D - None
      (c) Operating Expense Funded Equipment - None
      (d) Inventories - None
   2. Total Other Project Costs
      (a) Research and Development Necessary to Complete Project - None.
      (b) Conceptual Design Costs - None.
      (c) Decontamination and Decommissioning (D&D) - None.
      (d) NEPA Documentation - Costs were not borne by this project.
      (e) Other Project Related Costs - include Pre-Title I Activities; facilities operations and maintenance; and purchased support-services including subproject validation, contract administration, design reviews and security escorts - $6,777,000.
      (f) Non-Federal Contribution - None

b. Related Annual Costs
   1. Facility operating costs c/
   2. Facility maintenance and repair costs - c/
   3. Programmatic operating expenses directly related to the facility - c/
   4. Capital equipment not related to construction but related to the programmatic effort in the facility - None.
   5. Utility costs - Negligible; co-resident operations.
   6. Other costs - None

c/ Activities will reside within the footprint of existing facilities.

1. Title and Location of Project: Rapid Reactivation 2a. Project No.: 99-D-122

Various Locations 2b. Construction Funded

13. Design and Construction of Federal Facilities

The total estimated cost of this project includes, where appropriate, the cost of measures necessary to assure compliance with OMB Circular A-106, the Executive Order No. 12088, 'Federal Compliance with Pollution Control Standards'; Section 19 of the Occupational Safety and Health Act of 1970, the provisions of Executive Order No. 12196, and the related Safety and Health Provisions for Federal Employees (CFR Title 29, Chapter XVII, Part 1960); and the Architectural Barriers Act of 1968. The project will be located in an area not subject to flooding determined in accordance with Executive Order 11988.

14. Supplementary Project Data for Facility Utilization

All activities utilize existing facility space. Supplementary project data for facility utilization is included as supplemental data. The FONSI was published September 1993 allowing progression of the project.

DEPARTMENT OF ENERGY
FY 1999 CONGRESSIONAL BUDGET REQUEST

WEAPONS ACTIVITIES
(Tabular dollars in thousands. Narrative material in whole dollars.)

Weapons Stockpile Management

1.	Title and Location of Project:	Stockpile Management Restructuring Initiative - Y-12 Consolidation, Y-12 Plant, Oak Ridge, Tennessee	2a. Project No.: 98-D-124 2b. Constructed Funded

SIGNIFICANT CHANGES

C None.

DEPARTMENT OF ENERGY
FY 1999 CONGRESSIONAL BUDGET REQUEST

WEAPONS ACTIVITIES
(Tabular dollars in thousands. Narrative material in whole dollars.)

Weapons Stockpile Management

1.	Title and Location of Project:	Stockpile Management Restructuring Initiative - Y-12 Consolidation, Y-12 Plant, Oak Ridge, Tennessee		2a. Project No.: 98-D-124 2b. Constructed Funded
		Preliminary Schedule	Title I Baseline	Current Baseline Schedule
3a.	Date A-E Work Initiated (Title I Design Start Scheduled):	1st Qtr. FY 1998		
3b.	A-E Work (Titles I & II) Duration:	28 months		
4a.	Date Physical Construction Starts:	2nd Qtr. FY 1999		
4b.	Date Construction Ends:	4th Qtr. FY 2002		
		Preliminary Estimate	Title I Baseline	Current Baseline Estimate
5.	Total Estimated Cost (TEC) --	$ 42,500		
6.	Total Project Cost (TPC) --	$ 52,800		

1. Title and Location of Project:	Stockpile Management Restructuring Initiative - Y-12 Consolidation, Y-12 Plant, Oak Ridge, Tennessee (continued)	2a. Project No.: 98-D-124 2b. Construction Funded

7. Financial Schedule (Federal Funds):

Fiscal Year	Appropriations	Adjustments	Obligations	Costs
1998	$ 6,450	$ 0	$ 6,450	$ 2,000
1999	10,700	0	10,700	8,400
2000	11,900	0	11,900	9,900
2001	11,100	0	11,100	14,800
2002	2,350	0	2,350	7,400

8. Project Description, Justification and Scope

In 1994, production operations were curtailed at three of the seven weapons production facilities (Mound in Ohio, Pinellas in Florida, and Rocky Flats in Colorado). Their production responsibilities were transferred to two of the remaining four production plants (Kansas City Plant and Savannah River Site (SRS)) and to two of the national laboratories (Los Alamos National Laboratory (LANL) and Sandia National Laboratories, New Mexico). After the closure of these production operations, studies were continued to determine the optimum size and configuration of the nuclear weapons complex. It was recognized that the remaining four production facilities provided excess capacity than that required to support the projected stockpile, and that further closure and consolidation or significant downsizing of operations was necessary. Studies were begun in late 1994 to address whether the reduced stockpile levels necessitated further plant closures and consolidation/collocation at the weapons laboratories or supported the downsizing of operations at the existing production plants. These studies were used to assess all reasonable alternatives which required little or no construction of new facilities. The result of these in-depth programmatic assessments of these alternatives studies culminated in the development and approval of the Justification of Mission Need document and the Critical Decision I authorization for the Stockpile Management Restructuring Initiative (SMRI) on April 2, 1996.

The SMRI will support the implementation of Departmental decisions related to production facility downsizing or relocation of missions consistent with the Stockpile Stewardship and Management (SSM) Programmatic Environmental Impact Statement (PEIS) and the Tritium Supply and Recycling PEIS Records of Decision (ROD). The preferred alternative for restructuring the stockpile management complex was announced by the Secretary of Energy on February 28, 1996. The Secretary of Energy approved a ROD for the Tritium Supply and Recycling PEIS on December 5, 1995.

The goal of the Stockpile Management Program, as implemented by the SMRI, is to attain the following objectives: (1) fully support the evaluation, enhanced surveillance, maintenance, and repair of the enduring stockpile; (2) provide flexibility to respond to new requirements or

8. Project Description, Justification and Scope (Continued)

to achieve further reductions in the stockpile size; (3) maintain and improve (where necessary) the manufacturing technology necessary to fully support the stockpile; and (4) achieve significant reductions in operating costs for the complex.

The SMRI involves (1) the downsizing of weapons assembly/disassembly and high explosives missions, and the establishment of non-intrusive pit reuse mission at the Pantex Plant; (2) downsizing nonnuclear component manufacturing at the Kansas City Plant; (3) downsizing weapons secondary and case fabrication at the Oak Ridge Y-12 Plant; and (4) consolidation of existing tritium operations at the SRS.

No new facilities are being proposed for implementing the SMRI. Existing facilities will be utilized to the maximum extent possible. All existing facilities that have been identified for utilization under each site-specific recommended alternative will be repaired, upgraded, and/or modified to meet current environment, safety, and health requirements. In addition, they will be configured to maximize effectiveness and efficiency in support of the site-specific downsizing and/or consolidation management capability requirements for the smaller stockpile.

The consolidation of the Canned Subassemblies mission will reduce the existing active Defense Programs (DP) footprint to approximately 665,000 square feet and will include all DP functions (production, storage, Administration, etc.) associated with the production mission for secondaries and cases. The consolidation work will take place in Buildings 9201-5N, 9204-2E, and the 9215/9998 complex (including two wings of Building 9212), and peripheral support buildings. In addition, two additional facilities will be held in "cold standby" (Building 9201-5W and 9204-2 ground floor). The facilities work required includes (1) capital equipment relocation; (2) capital equipment procurement and installation; (3) facility upgrades to meet natural phenomena code requirements; and (4) preparation of cold standby facilities.

The primary purpose of this project is to enable the Y-12 Plant to continue in the responsibility for the "secondary mission" within a more cost-effective footprint. The Y-12 Plant has the required capability for the mission; however, the oversized configuration of the site can not be supported with current projections of funding levels.

Operations at Y-12 will be sized consistent with projected workload requirements. The long-term missions that will remain at the Y-12 Plant are: (1) fabrication of components for weapon secondaries; (2) assembly/disassembly and surveillance of weapon secondaries and cases; and (3) potentially, storage of the Nation's strategic reserves of highly-enriched uranium.

This Y-12 downsizing will consolidate all secondary and case manufacturing processes into significantly fewer existing production buildings. The cold standby facilities will be furnished with existing excess equipment. Two production buildings will be maintained in a cold standby status as a contingency.

8. Project Description, Justification and Scope (Continued)

The activities associated with the project centralizes the DP production functions in the western area of the Y-12 Plant. The 10 subprojects will consist of the following tasks:

- Relocation and/or hook-up of several machine tools to Building 9215 M-wing for the Enriched Uranium machining function.
- Relocation of the Can Shop production operation from Building 9201-1 to Building 9215 P-wing.
- Placing Building 9201-5W Machine Shop in a "Cold Standby" status to reduce utility costs, but maintain surge production capability.
- Providing a depleted uranium sawing operation, and a furnace for dismantled weapon material consolidation in Building 9212 A-2 Wing.
- Relocating Ceramic Machining equipment from Building 9201-5E to Building 9998 G3 Area.
- Relocation and/or replacement of Lithium Deuteride/Hydride production equipment from Building 9204-2 to Building 9998 G3 area.
- Placing Building 9204-2 first floor Lithium Salt Machining and Inspection area in "Cold Standby" and minimizing facility operational costs in the remainder of the building.
- Relocation of Lithium Salt Machining operations from Building 9204-2 to Building 9204-2E.
- Relocation of Special Material Pilot Plant facility function from Building 9731 to Building 9805-1 with capacity enhancements to the existing developmental equipment to allow for production operations.
- Natural Phenomena upgrades of facilities to meet required structural integrity. Facilities include Buildings 9996/9212 A-2 wing; Building 9998; Building 9215; Building 9201-5N; and Building 9204-2E.

In FY 1999, funding is requested for design and construction activities.

1. Title and Location of Project:	Stockpile Management Restructuring Initiative - Y-12 Consolidation, Y-12 Plant, Oak Ridge, Tennessee (continued)	2a. Project No.: 98-D-124 2b. Construction Funded

9. Details of Cost Estimate

		Item Cost	Total Cost
a.	Design and Management Costs		$ 6,800
	(1) Engineering design and inspection at approximately 19 percent of construction costs (Item c)	$ 5,300	
	(2) Construction management.	0 a/	
	(3) Project management at 5.3 percent of construction costs (Item c)	1,500	
b.	Land and land rights		0
c.	Construction costs		28,040 a/
	1. Improvements to land		
	2. Buildings and building modification		
	3. Special equipment (including gloveboxes and tritium handling equipment)		
	4. Utilities		
	5. Demolition		
	6. Service equipment		
d.	Standard equipment		0
e.	Major computer items		0
f.	Removal cost less salvage		0
g.	Design and project liaison, testing, checkout and acceptance		580
h.	Subtotal (a through g)		$35,420
i.	Contingencies at approximately 20 percent of above costs		7,080
j.	Total line item cost (Section 11.a.1.(a))		$42,500
k.	LESS: Non-Federal contribution		0
l.	Net Federal total estimated cost (TEC)		$42,500

a/ Construction management costs are reflected under Section 9.c. and include construction support activities required for management of "direct-hire" forces as described in Section 10. Construction support costs of $4,269,000 are approximately 15 percent of construction costs.

1.	Title and Location of Project:	Stockpile Management Restructuring Initiative - Y-12 Consolidation, Y-12 Plant, Oak Ridge, Tennessee (continued)	2a. Project No.: 98-D-124 2b. Construction Funded

10. Method of Performance

Design and inspection will be performed under negotiated fixed-price architect-engineer contracts or by the Management and Operating (M&O) contractor. Construction shall be accomplished by MK-Ferguson direct-hire forces. However, M&O contractor personnel may perform design, construction, and inspection work for activities determined to be cost effective.

1. Title and Location of Project:	Stockpile Management Restructuring Initiative - Y-12 Consolidation, Y-12 Plant, Oak Ridge, Tennessee (continued)	2a. Project No.: 98-D-124 2b. Construction Funded

11. Schedule of Project Funding and Other Related Funding Requirements

	Prior Years	FY 1997	FY 1998	FY 1999	FY 2000	Outyears	Total
a. Total project costs							
1. Total facility costs							
(a) Line item (Section 9.j.)	$ 0	$ 0	$ 2,000	$ 8,400	$ 9,900	$22,200	$ 42,500
(b) Plant, Engineering and Design (PE&D)	0	0	0	0	0	0	0
(c) Operating expense funded equipment	0	0	0	0	0	0	0
(d) Inventories	0	0	0	0	0	0	0
Total facility costs (Federal and Non-Federal)	$ 0	$ 0	$ 2,000	$ 8,400	$ 9,900	$22,200	$ 42,500
2. Other project costs							
(a) R&D necessary to complete project	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
(b) Conceptual design cost	650	850	0	0	0	0	1,500
(c) Decontamination and Decommissioning (D&D) b/	0	0	0	0	0	0	0
(d) NEPA documentation costs	0	0	0	0	0	0	0
(e) Other project related costs	0	0	0	2,600	3,000	3,200	8,800
(f) Total other project costs	$ 650	$ 850	$ 0	$ 2,600	$ 3,000	$ 3,200	$ 10,300
(g) Total project costs	$ 650	$ 850	$ 2,000	$ 11,000	$ 12,900	$25,400	$ 52,800
(h) LESS: Non-Federal contribution	0	0	0	0	0	0	0
(i) Net Federal total project costs (TPC)	$ 650	$ 850	$ 2,000	$ 11.000	$ 12,900	$25,400	$ 52,800

b/ Assumptions for reduced operating costs are provided in the SSM PEIS and AIP and assume expense dollars are available for outyear decontamination and decommissioning activities estimated to cost $443,500,000.

1. Title and Location of Project:	Stockpile Management Restructuring Initiative - Y-12 Consolidation, Y-12 Plant, Oak Ridge, Tennessee (continued)	2a. Project No.: 98-D-124 2b. Construction Funded

11. Schedule of Project Funding and Other Related Funding Requirements (Continued)

b. Related annual costs (estimated life of project--20 years) b/

1.	Facility operating costs	$129,240
2.	Facility maintenance and repair costs	13,452
3.	Programmatic operating expenses directly related to the facility	0
4.	Capital equipment not related to construction but related to the programmatic effort in the facility	0
5.	GPP or other construction related to programmatic effort in the facility	0
6.	Utility costs	0
7.	Other costs	0
	Total related annual costs	$142,692

b/ Assumptions for reduced operating costs are provided in the SSM PEIS and AIP and assume expense dollars are available for outyear decontamination and decommissioning activities estimated to cost $443,500,000.

1.	Title and Location of Project:	Stockpile Management Restructuring Initiative - Y-12 Consolidation, Y-12 Plant, Oak Ridge, Tennessee (continued)	2a. Project No.: 98-D-124 2b. Construction Funded

12. Narrative Explanation of Total Project Funding and Other Related Funding Requirements

a. Total project funding

1. Total facility costs

(a) Line item -- Construction line item costs for engineering design, procurement, and construction, and acceptance/operational startup activities to downsize and consolidate the existing Y-12 Plant -- $42,500,000.

(b) PE&D -- None.

(c) Operating expense funded equipment -- None.

(d) Inventories -- None.

2. Other project costs

(a) R&D necessary to complete construction -- None.

(b) Conceptual design -- Costs of $1,500,000 have been expended to finalize the scope of the project.

(c) Decontamination and Decommissioning (D&D) -- $0 b/

(d) NEPA documentation -- $0 c/

(e) Other project related funding -- Includes project support, design and technical oversite, and startup testing and readiness planning -- $8,800,000.

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b/ Assumptions for reduced operating costs are provided in the SSM PEIS and AIP and assume expense dollars are available for outyear decontamination and decommissioning activities estimated to cost $443,500,000.

c/ Primary NEPA documentation was completed in the Stockpile Stewardship and Management (SSM) Programmatic Environmental Impact Statement (PEIS). NEPA documentation for individual subprojects was completed as part of the conceptual Design and approved as Categorical Exclusions.

.12. Narrative Explanation of Total Project Funding and Other Related Funding Requirements (Continued)

b. Related annual costs
   1. Facility operating costs -- $129,240,000. b/
   2. Facility maintenance and repair costs -- $13,452,000 per year. b/
   3. Programmatic operating expenses directly related to the facility -- included in 12.b.1.
   4. Capital equipment not related to construction but related to the programmatic effort of the facility -- not applicable.
   5. GPP or other construction related to the programmatic effort -- not applicable.
   6. Utility costs -- included in 12.b.1.
   7. Other Costs -- $0.

b/ Assumptions for reduced operating costs are provided in the SSM PEIS and AIP and assume expense dollars are available for outyear decontamination and decommissioning activities estimated to cost $443,500,000.

DEPARTMENT OF ENERGY
FY 1999 CONGRESSIONAL BUDGET REQUEST
(Changes from FY 1998 Congressional Budget Request are denoted with a vertical line in left margin.)

WEAPONS ACTIVITIES
(Tabular dollars in thousands. Narrative material in whole dollars.)

Weapons Stockpile Management

1.	Title and Location of Project:	Stockpile Management Restructuring Initiative Tritium Facility Modernization and Consolidation Savannah River Plant, Aiken, South Carolina	2a. Project No.: 98-D-123 2b. Construction Funded

SIGNIFICANT CHANGES

- The cost estimate and scope has been adjusted to include costs related to expanding the process and/or capacity requirements needed to support a Commercial Light Water Reactor (CLWR) option under the Tritium Supply Program. The CLWR option requires additional process capabilities and/or capacity in the following areas: (1) Primary Separation; (2) Process Stripper/Tritium Recovery; (3) Isotope Separation and; (4) Glovebox Stripper/Tritium Recovery. The scope and associated funding to process tritium-containing gases from the CLWR option was originally included in the Tritium Extraction Facility (Line Item 98-D-125) but was moved into this line item due to the possible delays in the TEF project. The TEC has increased from $68,790,000 to $98,400,000 and the TPC has increased from $85,540,000 to $122,000,000. The construction completion date has changed from 3rd Qtr. FY 2004 to 4th Qtr. FY 2004.

DEPARTMENT OF ENERGY
FY 1999 CONGRESSIONAL BUDGET REQUEST
(Changes from FY 1998 Congressional Budget Request are denoted with a vertical line in left margin.)

WEAPONS ACTIVITIES
(Tabular dollars in thousands. Narrative material in whole dollars.)

Weapons Stockpile Management

1.	Title and Location of Project:	Stockpile Management Restructuring Initiative Tritium Facility Modernization and Consolidation Savannah River Plant, Aiken, South Carolina		2a. Project No.: 98-D-123 2b. Construction Funded
		Preliminary Schedule	Title I Baseline	Current Baseline Schedule
3a.	Date A-E Work Initiated (Title I Design Start Scheduled):	2nd Qtr. FY 1998		
3b.	A-E Work (Titles I & II) Duration:	24 months		
4a.	Date Physical Construction Starts:	3rd Qtr. FY 1998		
4b.	Date Construction Ends: (Current Execution Schedule):	3rd Qtr. FY 2004 4th Qtr. FY 2004 a/		
		Preliminary Estimate	Title I Baseline	Current Baseline Estimate
5.	Total Estimated Cost (TEC) -- (Current Execution Cost)	$ 68,790 $ 98,400 a/		
6.	Total Project Cost (TPC) -- (Current Execution Cost)	$ 85,540 $122,000 a/		

a/ Changes to cost and schedule reflect inclusion of Commercial Light Water Reactor option requirements into this project.

1. Title and Location of Project:	Stockpile Management Restructuring Initiative Tritium Facility Modernization and Consolidation Savannah River Plant, Aiken, South Carolina (continued)	2a. Project No.: 98-D-123 2b. Construction Funded

7. Financial Schedule (Federal Funds):

Fiscal Year	Appropriations	Adjustments	Obligations	Costs
1998	$ 11,000	$ 0	$ 11,000	$ 7,300
1999	27,500	0	27,500	18,500
2000	30,000	0	30,000	29,000
2001	16,500	0	16,500	24,000
2002	10,500	0	10,500	16,500
2003	2,300	0	2,300	2,500
2004	600	0	600	600

8. Project Description, Justification and Scope

In 1994, production operations were curtailed at three of the seven weapons production facilities (Mound in Ohio, Pinellas in Florida, and Rocky Flats in Colorado). Their production responsibilities were transferred to two of the remaining four production plants (Kansas City Plant and Savannah River Site (SRS)) and to two of the national laboratories (Los Alamos National Laboratory (LANL) and Sandia National Laboratory, New Mexico). After the closure of these production operations, studies were continued to determine the optimum size and configuration of the nuclear weapons complex. It was recognized that the remaining four production facilities provided excess capacity than that required to support the projected stockpile, and that further closure and consolidation or significant downsizing of operations was necessary. Studies were begun in late 1994 to address whether the reduced stockpile levels necessitated further plant closures and consolidation/collocation at the weapons laboratories or supported the downsizing of operations at the existing production plants. These studies were used to assess all reasonable alternatives which required little or no construction of new facilities. The result of these in-depth programmatic assessments culminated in the development and approval of the Justification of Mission Need document and the Critical Decision I authorization for the Stockpile Management Restructuring Initiative (SMRI) on April 2, 1996.

8. Project Description, Justification and Scope: (Continued)

The SMRI will support the implementation of Departmental decisions related to production facility downsizing or relocation of missions consistent with the Stockpile Stewardship and Management (SSM) Programmatic Environmental Impact Statement (PEIS) and the Tritium Supply and Recycling PEIS Records of Decision (ROD). The preferred alternative for restructuring the stockpile management complex was announced by the Secretary of Energy on February 28, 1996. The Secretary of Energy approved a ROD for the Tritium Supply and Recycling PEIS on December 5, 1995.

The goal of the Stockpile Management Program, as implemented by the SMRI, is to attain the following objectives: (1) fully support the evaluation, enhanced surveillance, maintenance, and repair of the enduring stockpile; (2) provide flexibility to respond to new requirements or to achieve further reductions in the stockpile size; (3) maintain and improve (where necessary) the manufacturing technology necessary to fully support the stockpile; and (4) achieve significant reductions in operating costs for the complex.

The SMRI involves (1) the downsizing of weapons assembly/disassembly and high explosives missions, and the establishment of non-intrusive pit reuse mission at the Pantex Plant; (2) downsizing nonnuclear component manufacturing at the Kansas City Plant; (3) downsizing weapons secondary and case fabrication at the Oak Ridge Y-12 Plant; and (4) consolidation of existing tritium operations at the SRS.

No new facilities are being proposed for implementing the SMRI. Existing facilities will be utilized to the maximum extent possible. All existing facilities that have been identified for utilization under each site specific recommended alternative will be repaired, upgraded, and/or modified to meet current environment, safety, and health requirements. In addition, they will be configured to maximize effectiveness and efficiency in support of the site-specific downsizing and/or consolidation management capability requirements for the smaller stockpile.

The Tritium Facility Modernization and Consolidation subproject will relocate several process systems and equipment and/or process functions from Buildings 232-H into existing buildings within the Tritium Facility. High and Moderate hazard processes will be relocated into Building 233-H.

Low Hazard processes will be relocated to the North end of Building 234-H. The Building 233-H and 234-H service support systems will be upgraded to accommodate the additional loads.

1.	Title and Location of Project:	Stockpile Management Restructuring Initiative Tritium Facility Modernization and Consolidation Savannah River Plant, Aiken, South Carolina (continued)	2a. Project No.: 98-D-123 2b. Construction Funded

8. Project Description, Justification and Scope: (Continued)

The consolidation of Tritium processing activities into Buildings 233-H, 249-H, and the newer portion of 234-H will improve the safety of operations, reduce environmental releases, improve productivity, and significantly reduce future operating costs.

The consolidation of equipment into fewer operating buildings will allow for the reduction of maintenance, operations, and support staffing. The closure of 232-H will further reduce the Defense Programs operating budget for the Savannah River Site (SRS). It is estimated that financial pay back for this project can be realized in approximately four years.

The scope of work that is being transferred from 98-D-125 are increases in capacities and flows in the primary separation system, process stripper/tritium recovery system, glovebox stripper/tritium recovery system. It also adds an isotope separation process. These additions will allow the Consolidation project to handle additional process and waste gases from any new tritium source.

FY 1999 funding will be utilized for design, procurement, and construction activities.

1. Title and Location of Project:	Stockpile Management Restructuring Initiative Tritium Facility Modernization and Consolidation Savannah River Plant, Aiken, South Carolina (continued)	2a. Project No.: 98-D-123 2b. Construction Funded

9. Details of Cost Estimate

		Item Cost	Total Cost
a.	Design and Management Costs		$ 23,026
	(1) Engineering design and inspection at approximately 39.2 percent of construction costs	$ 17,677	
	(2) Construction management costs at 4.4 percent of construction costs (Item c)	1,995	
	(3) Project management at 7.4 percent of construction costs (Item c)	3,354	
b.	Land and land rights		0
c.	Construction costs		45,120
	1. Improvements to land	100	
	2. Buildings and building modification	5,300	
	3. Special equipment (including gloveboxes and tritium handling equipment)	36,345	
	4. Utilities	0	
	5. Demolition	295	
	6. Service equipment	3,080	
d.	Standard equipment		0
e.	Major computer items		0
f.	Removal cost less salvage		1,350
g.	Design and project liaison, testing, checkout and acceptance		3,140
h.	Subtotal (a through g)		$ 72,636
i.	Contingencies at approximately 35.5 percent of above costs		25,764
j.	Total line item cost (Section 11.a.1.(a))		$ 98,400
k.	LESS: Non-Federal contribution		0
l.	Net Federal total estimated cost (TEC)		$ 98,400

10. Method of Performance

The Management and Operating (M&O) contractor, Westinghouse Savannah River Company, will have overall project performance responsibility. The M&O contractor will accomplish design, construction and procurement, utilizing fixed-price subcontracts awarded on the basis of competitive bidding to the extent feasible.

1. Title and Location of Project:	Stockpile Management Restructuring Initiative Tritium Facility Modernization and Consolidation Savannah River Plant, Aiken, South Carolina (continued)	2a. Project No.: 98-D-123 2b. Construction Funded

11. Schedule of Project Funding and Other Related Funding Requirements

	Prior Years	FY 1997	FY 1998	FY 1999	FY 2000	Outyears	Total
a. Total project costs							
1. Total facility costs							
(a) Line item (Section 9.j.)	$ 0	$ 0	$ 7,300	$ 18,500	$ 29,000	$ 43,600	$ 98,400
(b) Plant, Engineering and Design (PE&D)	0	0	0	0	0	0	0
(c) Operating expense funded equipment	0	0	0	0	0	0	0
(d) Inventories	0	0	0	0	0	0	0
(e) Total facility costs (Federal and Non-Federal)	$ 0	$ 0	$ 7,300	$ 18,500	$ 29,000	$ 43,600	$ 98,400
2. Other project costs							
(a) R&D necessary to complete project	$ 0	$ 400	$ 400	$ 0	$ 0	$ 0	$ 800
(b) Conceptual design cost	300	0	0	0	0	0	300
(c) Decontamination and Decommissioning (D&D)	0	0	200	0	0	0	200
(d) NEPA documentation costs	0	0	30	0	0	0	30
(e) Other project related costs	0	800	2,770	2,300	2,700	13,700	22,270
(f) Total other project costs	$ 300	$ 1,200	$ 3,400	$ 2,300	$ 2,700	$ 13,700	$ 23,600
(g) Total project costs	300	$ 1,200	$ 10,700	$ 20,800	$ 31,700	$ 57,300	$122,000
(h) LESS: Non-Federal contribution	0	0	0	0	0	0	0
(i) Net Federal total project costs (TPC)	$ 300	$ 1,200	$ 10,700	$ 20,800	$ 31,700	$ 57,300	$122,000

11. Schedule of Project Funding and Other Related Funding Requirements

		Total
b.	Related annual costs (estimated life of project--30 years)	
1.	Facility operating costs	$ 330
2.	Facility maintenance and repair costs	440
3.	Programmatic operating expenses directly related to the facility	1,100
4.	Capital equipment not related to construction but related to the programmatic effort in the facility	30
5.	GPP or other construction related to programmatic effort in the facility	10
6.	Utility costs	170
7.	Other costs	0
	Total related annual costs	$ 2,080

12. Narrative Explanation of Total Project Funding and Other Related Funding Requirements

a. Total project costs

1. Total facility costs
   - (a) Line item -- $98,400,000.
   - (b) PE&D -- None.
   - (c) Operating expense funded equipment -- None.
   - (d) Inventories -- None.

2. Other project costs
   - (a) R&D necessary to complete construction -- $800,000.
   - (b) Conceptual design -- $300,000.
   - (c) Decontamination and Decommissioning (D&D) -- None.
   - (d) NEPA documentation -- None.
   - (e) Other project related funding -- $22,270,000 - includes project support, design and technical oversight and review, startup test plans and other planning functions.

12. Narrative Explanation of Total Project Funding and Other Related Funding Requirements (Continued)

b. Related annual costs

1. Facility operating costs -- Approximately $330,000 per year (3 FTE) will be required to cover the cost of routine maintenance, janitorial services, and related overhead costs.
2. Facility maintenance and repair costs -- Approximately $440,000 per year (4 FTE) for repair and replacement costs.
3. Programmatic operating expenses directly related to the facility -- The average annual cost of direct labor, procurement, and overhead is estimated at $1,100,000 per year.
4. Capital equipment not related to construction but related to the programmatic effort of the facility -- $30,000.
5. GPP or other construction related to the programmatic effort -- $10,000.
6. Utility costs -- $170,000 per year.
7. Other Costs -- None.

DEPARTMENT OF ENERGY
FY 1999 CONGRESSIONAL BUDGET REQUEST
(Changes from FY 1998 Congressional Budget Request are denoted with a vertical line in left margin.)

WEAPONS ACTIVITIES
(Tabular dollars in thousands. Narrative material in whole dollars.)

Weapons Stockpile Management

1. Title and Location of Project:	Structural Upgrades Kansas City Plant, Kansas City, Missouri	2a. Project No.: 97-D-123 2b. Construction Funded

SIGNIFICANT CHANGES

C The current execution schedule is per Baseline Change Proposal (BCP) AL97025. The Title I design start was changed from 2nd Qtr. FY 1997 to the 1st Qtr. FY 1998, to ensure all areas within the Stockpile Management Restructuring Initiative (SMRI) footprint are repaired/reinforced.

DEPARTMENT OF ENERGY
FY 1999 CONGRESSIONAL BUDGET REQUEST
(Changes from FY 1998 Congressional Budget Request are denoted with a vertical line in left margin.)

WEAPONS ACTIVITIES
(Tabular dollars in thousands. Narrative material in whole dollars.)

Weapons Stockpile Management

1.	Title and Location of Project:	Structural Upgrades Kansas City Plant, Kansas City, Missouri		2a. Project No.: 97-D-123 2b. Constructed Funded
		Preliminary Schedule	Title I Baseline	Current Baseline Schedule
3a.	Date A-E Work Initiated (Title I Design Start Scheduled): (Current Execution Schedule)	2nd Qtr. FY 1997 1st Qtr. FY 1998 a/		
3b.	A-E Work (Titles I & II) Duration:	25 months		
4a.	Date Physical Construction Starts:	3rd Qtr. FY 1998		
4b.	Date Construction Ends:	3rd Qtr. FY 2003		
		Preliminary Estimate	Title I Baseline	Current Baseline Estimate
5.	Total Estimated Cost (TEC) --	$ 18,000		
6.	Total Project Cost (TPC) --	$ 19,800		

a/ The current execution schedule is per Baseline Change Proposal (BCP) AL97025. The Title I design start was changed from 2nd Qtr. FY 1997 to the 1st Qtr. FY 1998, to ensure all areas within the Stockpile Management Restructuring Initiative (SMRI) footprint are repaired/reinforced.

1. Title and Location of Project:	Structural Upgrades Kansas City Plant, Kansas City, Missouri (continued)	2a. Project No.: 97-D-123 2b. Construction Funded

7. Financial Schedule (Federal Funds):

Fiscal Year	Appropriations	Adjustments	Obligations	Costs
1997	$ 1,400	$ 0	$ 0	$ 0
1998	0	0	1,400	1,400
1999	6,400	0	6,400	4,100
2000	4,800	0	4,800	5,200
2001	5,400	0	5,400	3,500
2002	0	0	0	2,700
2003	0	0	0	1,100

8. Project Description, Justification and Scope

On December 16, 1993, a Kansas City Susceptibility Review and Walkdown was held at the Kansas City Plant by Albuquerque Operations Office, and Headquarters. This review was initiated as a result of a September 1993 report by an outside structural consulting firm that documented two principal areas of concern: existing structural overstresses and numerous unreinforced interior masonry walls. It was determined during the review that the structural overstresses and unreinforced masonry walls findings were an immediate concern.

To provide an immediate response to initiate risk reduction and potential loss of government assets, structural modifications were incorporated into all ongoing projects which appreciably renovated affected areas. Deficiencies in the remainder of the plant not affected by on-going projects are being addressed in this line item submission.

This project is required to correct structural overstress caused by gravity loads and will reinforce masonry walls to resist seismic loading within the DOE controlled portion of the Bannister Federal Complex to ensure life safety. The first part of this line item is required to provide structural overstress relief in accordance with current building code and DOE Order requirements to ensure life safety. This type of overstress is caused by gravity loads (dead loads, live load and snow load) and wind loading only.

Overstressed locations will be repaired to reduce the possibility of structural failure and bring the structure into compliance with DOE Orders and codes.

8. Project Description, Justification and Scope (Continued)

The second part of this line item is required to reinforce masonry walls to resist seismic loading up to a 500 year event. The existing masonry walls will fall at a seismic event of less than 100 years. Approximately 40% of the masonry walls in the DOE controlled part of the Federal Complex (upon completion of the Stockpile Management Restructuring Initiative Line Item) are not reinforced to resist seismic loading. Seismic codes were not in place when the Kansas City Plant was constructed. Potential seismic overstresses have been identified because of the presence of many unreinforced masonry walls added to the building for fire protection purposes. Failure of these walls would constitute a life safety hazard in the event of seismic activity.

The Federal Complex is currently occupied by several Federal Government Agencies. Corrective activities will be performed in DOE controlled areas only, unless an item is identified through the engineering study that would affect both DOE and the General Services Administration. This project will include the following upgrades:

- Column ribs will be post tensioned on end bays to increase bending moment capacity. This will be done by tensioning two steel rods underneath the subject ribs. The rods will be anchored into the end bay roof beam and bolted through to the interior roof beam.

- Selected rib ends will be supported with steel suspenders and long threaded rods through the roof shell or saddles and fastened to the roof beams to increase rib shear capacity and overcome the member strength loss due to existing cracking caused by excessive shear loading.

- Roof shell openings will be reinforced with steel straps adjacent to openings and parallel to the barrel axis. This provides a means of externally reinforcing the thin concrete shell.

- The mezzanine roof slab will be reinforced with intermediate steel beams supported by the concrete roof support beams.

- Supplemental support will be provided to mezzanine concrete roof structure integrity. This would stop further deterioration of the shell.

- Roof shell cracks will be injected with epoxy to reestablish roof structure integrity. This would stop further deterioration of the shell.

8. Project Description, Justification and Scope (Continued)

- Structural steel blocking will be attached to the roof structure on each side of existing masonry walls. This will eliminate drift during seismic activity and ultimately failure of the walls independent of the remaining structure. This blocking would be spaced approximately 4 feet center to center. The blocking would consist of steel angles fastened to a horizontal surface with the vertical leg of the angle placed against the top of the masonry wall and flat plates fastened to vertical surfaces of the roof structure and lapped down over the top course of the masonry walls.

- Steel strong-backs will be installed adjacent to masonry walls. This strong-back will be a structural tube fixed to the building floor at the bottom of the wall and roof structure at the top. The wall would be bolted to the strong-backs at approximately 4 feet centers. The strong-backs themselves would be on 8 foot centers. This would prevent a tall wall from collapse during a seismic event that produced lateral movement normal to the wall.

- The top of free-standing masonry walls will be supported with roof structure mounted braces. These braces would then be mounted to a steel strut fastened to the roof.

Main Manufacturing Building Overstresses Under Gravity Loading:

- Roof Ribs - 4 percent of the ribs are overstressed.
- Roof Beams - < 1 percent of the beams are overstressed.
- Roof Shell With Openings - 34 percent of the roof shells are overstressed.
- Columns - 0 percent of the columns are overstressed.
- Basement Level Supported Floor Slab - 5 percent of the floor slab is overstressed.
- 2nd Level Supported Floor Slab - 6 percent of the floor slab is overstressed.

Seismic events at KCP can be generated by two faults. The New Madrid Fault is approximately 250 miles east of the Kansas City Plant. The New Madrid fault system extends 120 miles from the area of Charleston, Missouri and Cario, Illinois through New Madrid, Missouri and to Marked Tree, Arkansas. It crosses five state lines and crosses the Mississippi River in three places and the Ohio River in two places. The fault is active, averaging more than 200 measured events per year (1.0 or more on the Richter scale). Tremors large enough to be felt (2.5-3.0 on the Richter scale) are noted annually. Every 18 months the fault releases a shock of 4.0 or more capable of local

8. Project Description, Justification and Scope (Continued)

minor damage. Magnitudes of 5.0 or greater occur about once per decade, can do significant damage, and can be felt in several states. A damaging earthquake along the fault of 6.0 or greater occurs about every 80 years with the last one in 1895. A major earthquake along the fault of 7.5 of greater happens every 200-300 years, with the last one in 1812. A quake of this magnitude would be felt throughout half of the United States. This information is based on a document titled "About the New Madrid Fault" from Southeast Missouri State University Center for Earthquake Studies, David Stewart, Director. The document is undated.

The other fault that could affect the Kansas City Plant is the Humbolt Fault Zone (Nehemma Ridge) located approximately 80 miles west of Kansas City in the Manhattan-Wamego, Kansas area. The largest earthquake that has occurred in Kansas is a probable Richter magnitude of about 5.2-5.3, which occurred in 1867 and events of this size can be expected to occur every 100 years. An earthquake of Richter magnitude 6.0-6.5 at this fault is likely to occur on average once in about 1000 years. This information is based on a document titled "Kansas Geological Survey" from the University of Kansas on October 10, 1990 by Don W. Steeples, Ph.D., Seismologist and Deputy Director.

In March 1994, the KCP was placed in performance category 1, based on an extensive study of mission dependency of specific KCP operations, Production Risk Evaluation Program, and the hazard assessment in the Site Safety Assessment. This recommendation was agreed to by KCAO, AL, DOE-HQ, and Allied Signal. A site specific Seismic Hazard Analysis was performed during the first quarter of FY 1994 by DOE-HQ for the KCP. This resulted in a reduction of the seismic zone factor from 0.15g to 0.06g. The Design Basis Earthquake (DBE) of 0.06g is comparable to a 500-year event. The former values are required by the 1994 Uniform Building Code for Zone 2A where the KCP is located. The lower seismic zone factor resulted in significant reduction in the calculations used in the analysis and has been taken into account in the cost estimate. The existing masonry walls are currently protected to a 100-year event.

The applicable DOE Orders and Codes that apply to this project are as follows:

- DOE Order 420.1, "Facility Safety,"

- Executive Order 12941 "Seismic Safety of Existing Federally Owned or Leased Buildings."

8. Project Description, Justification and Scope (Continued)

- The American Institute of Steel Construction (A.I.S.C.), American Concrete Institute (A.C.I.), and Uniform Building Code (UBC) define analysis and design requirements for corrective actions.

The consequence of not funding this line item is a continued life safety risk due to structural overstresses and, in the event of seismic activity, potential failure of unreinforced masonry walls. This project is in accordance with current mission needs and is being coordinated with the Stockpile Management Restructuring Initiative.

1. Title and Location of Project:	Structural Upgrades Kansas City Plant, Kansas City, Missouri (continued)	2a. Project No.: 97-D-123 2b. Construction Funded

9. Details of Cost Estimate b/

		Item Cost	Total Cost
a.	Design and Management Costs		$ 4,065
	(1) Engineering design and inspection at approximately 23 percent of construction costs (Item c) (Design, Drawings, and Specifications: $815)	$ 2,475	
	(2) Construction management costs	842	
	(3) Project management at 7 percent of construction costs (Item c)	748	
b.	Land and land rights		0
c.	Construction costs		10,830
	1. Improvements to land	0	
	2. Building modifications	10,830	
	3. Special equipment	0	
	4. Utilities	0	
	5. Special facilities	0	
d.	Standard equipment		360
e.	Major computer items		0
f.	Removal cost less salvage		0
g.	Design and project liaison, testing, checkout and acceptance		0
h.	Subtotal (a through g)		$ 15,255
i.	Contingencies at approximately 18 percent of above costs		2,745
j.	Total line item cost (Section 11.a.1.(a))		$ 18,000
k.	LESS: Non-Federal contribution		0
l.	Net Federal total estimated cost (TEC)		$ 18,000

The Conceptual Design Report was completed in July 1995. Escalation rates used are identified in the footnote; escalation is calculated to the midpoint of each activity. The escalation rates used were provided by the Independent Cost Estimated Group dated January 1997. Overhead rates were calculate at a factor of 14 percent for procurement and 85 percent for internal labor.

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b/ The escalation rates are per the FY 1999 Guidance for Anticipated Economic Escalation Rates, dated January 1997. The rates are as follows: FY 1998 is 2.2 percent; FY 1999 is 2.4 percent; FY 2000 is 2.8 percent; FY 2001 is 2.7 percent; and FY 2002 and 2003 are 2.8 percent.

10. Method of Performance

Design and inspection shall be performed under an AlliedSignal-negotiated architect-engineer subcontract. Construction will be accomplished by fixed price subcontract awarded after competitive proposals and administered by AlliedSignal.

11. Schedule of Project Funding and Other Related Funding Requirements

	Prior Years	FY 1997	FY 1998	FY 1999	FY 2000	Outyears	Total
a. Total project costs							
1. Total facility costs							
(a) Line item (Section 9.j.)	$ 0	$ 0	$ 1,400	$ 4,100	$ 5,200	$ 7,300	$ 18,000
(b) Plant, Engineering and Design (PE&D)	0	0	0	0	0	0	0
(c) Operating expense funded equipment	0	0	0	0	0	0	0
(d) Inventories	0	0	0	0	0	0	0
Total facility costs (Federal and Non-Federal)	$ 0	$ 0	$ 1,400	$ 4,100	$ 5,200	$ 7,300	$ 18,000
2. Other project costs							
(a) R&D necessary to complete construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
(b) Conceptual design costs.	615	0	0	0	0	0	615
(c) Decontamination and Decommissioning (D&D).	0	0	0	0	0	0	0
(d) NEPA documentation costs	0	0	0	0	0	0	0
(e) Other project related costs	200	200	200	200	200	185	1,185
(f) Total other project costs	$ 815	$ 200	$ 200	$ 200	$ 200	$ 185	$ 1,800
(g) Total project costs.	$ 815	$ 200	$ 1,600	$ 4,300	$ 5,400	$ 7,485	$ 19,800
(h) LESS: Non-Federal contribution	0	0	0	0	0	0	0
(i) Net Federal total project costs (TPC)	$ 815	$ 200	$ 1,600	$ 4,300	$ 5,400	$ 7,485	$ 19,800

11. Schedule of Project Funding and Other Related Funding Requirements (Continued)

b. Related annual costs (estimated life of project--30 years)

1. Facility operating costs	$ 0
2. Facility maintenance and repair costs	0
3. Programmatic operating expenses directly related to the facility	0
4. Capital equipment not related to construction but related to the programmatic effort in the facility	0
5. GPP or other construction related to programmatic effort in the facility	0
6. Utility costs	0
7. Other costs	0
Total related annual costs	$ 0

12. Narrative Explanation of Total Project Funding and Other Related Funding Requirements

a. Total project costs

1. Total facility costs
   (a) Line item -- Construction line item costs for engineering design, procurement, and construction are estimated to be $18,000,000.
   (b) PE&D -- None.
   (c) Operating expense funded equipment -- None.
   (d) Inventories -- None.
2. Other project costs
   (a) R&D necessary to complete construction -- None.
   (b) Conceptual design -- Approximately $615,000 will be incurred to prepare Conceptual Design Report.
   (c) Decontamination and Decommissioning (D&D) -- None.
   (d) NEPA Documentation -- None.
   (e) Other project related funding -- Approximately $1,185,000 will be expended on other project related items. These costs include pre-Title I activities, construction support, beneficial occupancy inspection, operational readiness reviews, and other activities.

12. Narrative Explanation of Total Project Funding and Other Related Funding Requirements (Continued)

b. Related annual costs

1. Facility operating costs -- None.
2. Facility maintenance and repair costs -- None.
3. Programmatic operating expenses directly related to the facility -- None.
4. Capital equipment not related to construction but related to the programmatic effort of the facility -- None.
5. GPP or other construction related to the programmatic effort -- None.
6. Utility costs -- None.
7. Other costs -- None.

DEPARTMENT OF ENERGY
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(Changes from FY 1998 Congressional Budget Request are denoted with a vertical line in left margin.)

WEAPONS ACTIVITIES
(Tabular dollars in thousands. Narrative material in whole dollars.)

Weapons Stockpile Management

1.	Title and Location of Project:	Nuclear Materials Storage Facility Renovation - Title I and II Design Los Alamos National Laboratory, Los Alamos, New Mexico	2a. Project No.: 97-D-122 2b. Design Funded

SIGNIFICANT CHANGES

- Title I Design start was delayed from the 1st Qtr. FY 1997 to 2nd Qtr. FY 1998 to allow a Los Alamos National Laboratory (LANL) and Department of Energy (DOE) Title I Readiness Review. The estimated cost of Title I activities increased to allow inclusion of corrective actions deemed necessary by the Readiness Review.

- Due to the Title I schedule delays and potential cost increases, this project has been revised to be a design only (Title I and II) Line Item. When Title I is near completion, the Department will reevaluate the mission need and request construction funding as appropriate. The FY 1999 request does not commit the Government to funding the entire Line Item (physical construction).

- As a result of the Title I Design start delay:

  - Major physical renovation work will not begin until FY 2000.
  - Appropriations for FY 1999 have been adjusted to reflect the shift in project activities.

	Original	Revised
	(Dollars in Thousands)	
FY 1999	$15,200	$ 9,164

DEPARTMENT OF ENERGY
FY 1999 CONGRESSIONAL BUDGET REQUEST
(Changes from FY 1998 Congressional Budget Request are denoted with a vertical line in left margin.)

WEAPONS ACTIVITIES
(Tabular dollars in thousands. Narrative material in whole dollars.)

Weapons Stockpile Management

1.	Title and Location of Project:	Nuclear Materials Storage Facility Renovation - Title I and II Design Los Alamos National Laboratory, Los Alamos, New Mexico		2a. Project No.: 97-D-122 2b. Design Funded a/
		Preliminary Schedule	Title I Baseline	Current Baseline Schedule
3a.	Date A-E Work Initiated (Title I Design Start Scheduled): (Current Execution Schedule)	1st Qtr. FY 1997 (Start of Project Management and System Engineering Work) 2nd Qtr. FY 1998 b/		
3b.	A-E Work (Titles I & II) Duration:	28 months		
4a.	Date Physical Construction Starts: (Current Execution Schedule)	2nd Qtr. FY 1999 TBD		
4b.	Date Construction Ends: (Current Execution Schedule	2nd Qtr. FY 2001 TBD		

a/ Due to the Title I schedule delays and potential cost increases, this project has been revised to be a design only (Title I and II) Line Item. When Title I is near completion, the agency will reevaluate the mission need and request construction funding as appropriate. This decision will not commit the Government to funding the entire Line Item (physical construction) until the Title I and cost estimate for physical construction is validated for mission need.

b/ Title I design start was delayed from the 1st Qtr. FY 1997 to 2nd Qtr. FY 1998 to allow a Los Alamos National Laboratory (LANL) and Department of Energy (DOE) Title I Readiness Review. The estimated cost of Title I activities increased to allow inclusion of corrective actions deemed necessary by the Readiness Review.

1. Title and Location of Project:	Nuclear Materials Storage Facility Renovation - Title I and II Design Los Alamos National Laboratory, Los Alamos, New Mexico (continued)	2a. Project No.: 97-D-122 2b. Design Funded

	Preliminary Estimate	Title I Baseline	Current Baseline Estimate
5. Total Estimated Cost (TEC) --	$ 45,292 a/		
(Current Execution Cost for Design)	$ 22,364 b/		
6. Total Project Cost (TPC) --	$ 56,653 a/		
(Current Execution Cost for Design)	TBD		

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7. Financial Schedule (Federal Funds):

Fiscal Year	Appropriations	Adjustments	Obligations	Costs
1997	$ 4,000	$ 0	$ 4,000	$ 1,954
1998	9,200	0	9,200	7,872
1999	9,164 c/	0	9,164	12,538
2000	TBD d/	0	TBD	TBD
2001	TBD	0	TBD	TBD
2002	TBD	0	TBD	TBD

a/ Due to the Title I schedule delays and potential cost increases, this project has been revised to be a design only (Title I and II) Line Item. When Title I is near completion, the agency will reevaluate the mission need and request construction funding as appropriate. This decision will not commit the Government to funding the entire Line Item (physical construction) until the Title I and cost estimate for physical construction is validated for mission need.

b/ Title I design start was delayed from the 1st Qtr. FY 1997 to 2nd Qtr. FY 1998 to allow a Los Alamos National Laboratory (LANL) and Department of Energy (DOE) Title I Readiness Review. The estimated cost of Title I activities increased to allow inclusion of corrective actions deemed necessary by the Readiness Review.

c/ Reduced FY 1999 request from $15,200,000 to $9,164,000 reflects funding required to complete Title I and II design effort.

d/ Funding profile for the construction phase will be established with the completion of Title I Design.

1. Title and Location of Project:	Nuclear Materials Storage Facility Renovation - Title I and II Design Los Alamos National Laboratory, Los Alamos, New Mexico (continued)	2a. Project No.: 97-D-122 2b. Design Funded

8. Project Description, Justification and Scope

This project provides necessary renovations to the 84-D-104, Nuclear Materials Storage Facility, a FY 1984 line item project that was not designed or constructed to applicable DOE Order 6430.1A standards and requirements. The Los Alamos Nuclear Materials Storage Facility (NMSF) has never been operational. Funding is required to correct deficiencies in the building discovered after its beneficial occupancy in February 1987.

The NMSF is a multi-level (ground floor, intermediate level and basement) storage vault designed and constructed for long and intermediate term storage of large quantities of special nuclear materials (SNM). In addition to the storage vault, facility support areas include a secure shipping and receiving area, Safe Secure Trailer (SST) vehicle garage and dock, equipment spaces, non-destructive assay (NDA), toilet/change rooms, general storage areas, a freight elevator, and a transfer tunnel to connect NMSF to the existing plutonium facility at TA-55. The entire facility is 30,400 gross square feet. The multi-level hardened vault is approximately 15,700 square feet and contains shipping and receiving, NDA, general storage on the ground level, and an approximately 8,500 square feet SNM vault in the basement. The automated storage and retrieval equipment (overhead gantry robot) is controlled by micro-computers connected to the Los Alamos Material Accounting System. General storage for oversized items is also provided in the vault area.

Required modifications to achieve facility operation are as specified below:

- Safeguards and Security Upgrades including Perimeter Intrusion Detection and Assessment System (PIDAS) additions and hardened control point with necessary vestibule areas
- Install new mechanical and electrical equipment
- New High Efficiency Particulate Air (HEPA) Filtered HVAC System
- New Utility building to house natural gas boiler and chillers/pumps
- Reconfiguration of "hardened" structure to establish Material Access Area (MAA)
- Support Area Reconfiguration to prevent co-mingling and establish radiological control point
- Passive Vault Cooling System
- Vault Storage Array Reconfiguration
- Grounding counterpoise system to support sensitive equipment (e.g., alarms, monitors, and NDA)

8. Project Description, Justification and Scope: (Continued)

Project History

- NMSF was originally constructed as a FY 1984 line item and beneficial occupancy was granted in February 1987
- Facility was never operated due to design and construction deficiencies
- In FY 1997, the Department requested funding to begin design efforts to renovate the facility.
- Design efforts delayed to allow Title I Readiness Review and inclusion of corrective actions into design plan.

The primary purpose of the project is to renovate an existing FY 1984 line item project that has never been operational to comply with DOE Orders 6430.1A and the 5480 series, particularly radiation control and exposure. The NMSF was developed as the central intermediate and long-term storage facility for Los Alamos National Laboratory (LANL) and is included in LANL's long-range plan. There is no other building at LANL with the storage capacity and protective devices that are available in the NMSF.

DOE has recently assigned weapons surveillance on New Materials Laboratory Testing (NMLT), Stockpile Laboratory Testing (SLT), and Shelf Life Program (SLP) activities from EG&G Rocky Flats Plant to LANL. Each of these activities will be completed at LANL's PF-4 (TA-55) facility and will require a significant reduction in PF-4 vault holdings to accomplish this added mission. The NMSF, with its tunnel connection to PF-4, is the most advantageous location to move the PF-4 holdings and still keep them close enough to continue on-going plutonium process missions. This action meets the original intent of NMSF, which was to consolidate satellite storage activities throughout LANL to make each satellite's vault available to programmatic requirements.

Engineering studies and the Conceptual Design Report have determined the most cost-effective methodologies to bring the NMSF into compliance with DOE and Federal requirements. Those studies have included radiation protection, heat removal, safeguards and security, HVAC criteria, and hazards analysis. Additionally, operational user requirements and storage criteria have been studied, a comparison of DOE Order 6430.1A criteria to as-built conditions has been conducted and criticality assessments and unshielded radiological dose rate calculations have been made to provide a baseline for additional shielding requirements in the facility. Each of these studies has verified the need for the recommended renovations.

Additional justification for the NMSF renovation is presented as follows:

- The NMSF provides the most cost-effective means to store Special Nuclear Materials (SNM) at LANL. This is attributed to its proximity to PF-4, its large automated storage capacity and its built-in security features which reduce operating costs.

8. Project Description, Justification and Scope: (Continued)

- The NMSF would establish an intermediate to long-term storage facility at LANL, enabling the PF-4 working vault in TA-55 to be used as a working vault. The continued use of the PF-4 working vault for storage of material excess to current activities significantly contributes to radiation exposures among PF-4 vault operations personnel, which is significantly more than the proposed RADCON manual design limits.

- The NMSF provides enhanced safeguards and security for SNM operations (fewer personnel with access to intermediate/long-term storage material, remote handling/access to stored material, SST garage for enclosed loading/unloading activities, a tunnel for material transport to/from TA-55 processing areas, located within an existing Category I Protected Area, etc.).

- Removal of much of the LANL inventory to this storage facility will result in reduced radiation exposure levels.

- This project upgrades vault shielding to current radiological control standards.

- The NMSF provides LANL with the facilities to meet its current missions, support lead laboratory activities, and to support interim storage options for LANL (to address site facility/storage issues) and the DOE (for complex-wide issues).

The FY 1999 funding is to complete Title I design and start Title II design.

9. Detail of Cost Estimate

		Item Cost	Total Cost
a.	Design and Management Costs		$ 22,364
	(1) Preliminary and final design costs (design, drawings, specifications)	$ 18,875	
	(2) Construction management costs	TBD	
	(3) Project management at 15.63 percent of design costs	3.488	
b.	Land and land rights		0
c.	Construction costs		TBD
	1. Improvements to land	TBD	
	2. Buildings	TBD	
	3. Special equipment	TBD	
	4. Utilities	TBD	
	5. Demolition	TBD	
d.	Standard equipment		0
e.	Major computer items		0
f.	Removal cost less salvage		0
g.	Design and project liaison, testing, checkout and acceptance		0
h.	Subtotal (a through g)		$ 22,364
i.	LESS: Non-Federal contribution		0
j.	Total Agency requirement (design only)		$ 22,364

10. Method of Performance

Design and inspection shall be performed under a negotiated architect or engineer contract. Future construction and procurement activities shall be accomplished by fixed-price contracts awarded on the basis of competitive bidding. Procurement of automated storage/retrieval equipment by competition fixed-price contract.

11. Schedule of Project Funding and Other Related Funding Requirements

	Prior Years	FY 1997	FY 1998	FY 1999	FY 2000	Outyears	Total
a. Total design costs (Agency requirement)							
1. Total facility costs							
(a) Line item (Section 9.j.)	$ 0	$ 1,954	$ 7,872	$ 12,538	$ 0	$ 0	$ 22,364
(b) Plant, Engineering and Design (PE&D)	0	0	0	0	0	0	0
(c) Operating expense funded equipment	0	0	0	0	0	0	0
(d) Inventories	0	0	0	0	0	0	0
(e) Total facility costs (Federal and Non-Federal)	$ 0	$ 1,954	$ 7,872	$ 12,538	$ 0	$ 0	$ 22.364
2. Other project costs							
(a) R&D necessary to complete project	$ 2,437	$ 220	$ 300	$ 300	$ 0	$ 0	$ 3,257
(b) Conceptual design cost	3,160	0	0	0	0	0	3,160
(c) Decontamination and Decommissioning (D&D)	0	0	0	0	0	0	0
(d) NEPA documentation costs	0	0	0	0	0	0	0
(e) Other project related costs	754	782	676	634	0	0	2,846
(f) Total other project costs	$ 6,351	$ 1,002	$ 976	$ 934	$ 0	$ 0	$ 9,263
(g) Total project costs	$ 6,351	$ 2,956	$ 8,848	$ 13,472	$ 0	$ 0	$ 31,627
(h) LESS: Non-Federal contribution	0	0	0	0	0	0	0
(i) Net Federal total project costs (TPC)	$ 6,351	$ 2.956	$ 8,848	$ 13.472	$ 0	$ 0	$ 31,627

12. Narrative Explanation of Total Project Funding and Other Related Funding Requirements

a. Total project funding
   1. Total facility costs
      (a) Line item -- $22,364,000.
      (b) PE&D -- None.
      (c) Operating expense funded equipment -- None.
      (d) Inventories -- None.
   2. Other project costs
      (a) R&D necessary to complete construction -- Includes Engineering Studies, thermodynamic modeling, radiation modeling and heat removal studies -- $3,257,000.
      (b) Conceptual design -- Includes Functional and Operational Requirements, Conceptual Design Reports, Construction Project Data Sheets and Value Engineering activities: Preliminary Safety Analysis Report, Safety Analysis Report, Operational Readiness Review and startup activities. Many activities included in this cost category were begun in FY 1994 -- $3,160,000.
      (c) Decontamination and Decommissioning (D&D) -- None.
      (d) NEPA documentation -- None.
      (e) Other project related funding -- NEPA documentation, includes Sitewide EIS support -- $2,846,000.

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WEAPONS ACTIVITIES
(Tabular dollars in thousands. Narrative material in whole dollars.)

Weapons Stockpile Management

1.	Title and Location of Project:	Sewage Treatment Quality Upgrade (STQU) Pantex Plant, Amarillo, Texas	2a. Project No. 96-D-122 2b. Construction Funded

SIGNIFICANT CHANGES

C Baseline Change Proposal AL97015 revised the project scope as follows:

- The Upgrade of the Sanitary Sewer System in Zone 12, Elimination of Industrial Discharge to Surface Ditches and Modify Plant Parking Areas Storm Water System will be consolidated into one subproject titled Sewer System Upgrade.

- The Waste Water Treatment Plant Upgrade will be a separate design and construction effort.

- Building 11-20 work has been deleted and Building 12-17 has been added to the Sewer System Upgrade subproject.

- The Waste Water Treatment Plant Upgrade scope has been revised to include building a new "constructed wetlands" system. Two anaerobic fermentation pits have been added to the system in the existing lagoon and the existing liner has been replaced in the lagoon. The new oxidation ditch, secondary clarification system, alum injection and tertiary filtration have been deleted from the project scope.

- The project is behind schedule and is currently estimated to be completed 11 months beyond the baseline construction completion date of 2nd Qtr. FY 2001.

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WEAPONS ACTIVITIES
(Tabular dollars in thousands. Narrative material in whole dollars.)

Weapons Stockpile Management

1.	Title and Location of Project:	Sewage Treatment Quality Upgrade (STQU) Pantex Plant, Amarillo, Texas		2a. Project No.: 96-D-122 2b. Constructed Funded
		Preliminary Schedule	Title I Baseline	Current Baseline Schedule
3a.	Date A-E Work Initiated (Title I Design Start Scheduled):	2nd Qtr. FY 1996		
3b.	A-E Work (Titles I & II) Duration: (Current Execution Schedule)	25 months 39 months a/		
4a.	Date Physical Construction Starts:	2nd Qtr. FY 1998		
4b.	Date Construction Ends: (Current Execution Schedule)	2nd Qtr. FY 2001 2nd Qtr. FY 2002 a/		
		Preliminary Estimate	Title I Baseline	Current Baseline Estimate
5.	Total Estimated Cost (TEC) --	$ 11,300		
6.	Total Project Cost (TPC) --	$ 12,400		

a/ This project is behind schedule and is currently estimated to be completed 11 months beyond the baseline construction completion date of 2nd Qtr. FY 2001.

1. Title and Location of Project:	Sewage Treatment Quality Upgrade (STQU) Pantex Plant, Amarillo, Texas (continued)	2a. Project No.: 96-D-122 2b. Construction Funded

7. Financial Schedule (Federal Funds):

Fiscal Year	Appropriations	Adjustments	Obligations	Costs
1996	$ 600	$ 0	$ 600	$ 6
1997	100	0	100	303
1998	6,900	0	6,900	5,697
1999	3,700	0	3,700	4,400
2000	0	0	0	500
2001	0	0	0	294
2002	0	0	0	100

8. Project Description, Justification and Scope

The Sewage Treatment Quality Upgrade (STQU) project will control and process liquid from industrial processes, storms, and raw sewage. The project consists of two major subprojects: (1) the Sewer System Upgrade; and (2) Waste Water Treatment Plant Upgrade.

Sewer System Upgrade

The Sewer System Upgrade subproject will repair and replace existing deteriorated sanitary sewer lines in Zone 12, eliminate industrial process discharges to surface ditches, and manage the plant storm water.

This subproject will provide for the replacement of between 5,000 to 6,000 linear feet of six, eight and twelve inch sanitary sewer pipe and 27 sanitary manholes in a portion of Zone 12 of the Pantex Plant. The existing sanitary sewer system consists of vitrified clay pipe and brick manholes which are approximately 50 years old. The existing system is badly deteriorated and is allowing infiltration and exfiltration to occur. Portions of the Zone 12 sewer system have already undergone recent repair and replacement.

The HE contaminated wastewater treatment systems at Buildings 12-17 and 11-50 will be revised to add treated water holding sumps and piping to discharge treated water to the sanitary sewer rather than to grade. A treatment system of sumps, pumps, and filtering equipment will be provided for the HE contaminated waste water at Building 12-19. The treated water from Building 12-19 will be discharged to the sanitary

8. Project Description, Justification and Scope (Continued)

sewer. A scrubber water recirculation and filtering system will be provided for the rotoclones in Buildings 12-19 to improve equipment performance and reduce discharge of contaminated water.

This subproject will provide best management practices to control storm water runoff from existing paved parking areas within the DOE Pantex Plant. The control of storm water will prevent erosion, inhibit sediment deposition in natural waterways, and prevent the migration of possible pollutants within the storm water runoff stream.

Wastewater Treatment Plant Upgrade

The Wastewater Treatment Plant will be upgraded to meet environmental regulations and permits by constructing a new wetlands system that includes two anaerobic fermentation pits in the existing lagoon. This upgrade will also replace the existing liner in the lagoon.

All equipment will consider seismic loading.

1. Title and Location of Project:	Sewage Treatment Quality Upgrade (STQU) Pantex Plant, Amarillo, Texas (continued)	2a. Project No.: 96-D-122 2b. Construction Funded

9. Details of Cost Estimate b/ c/

		Item Cost	Total Cost
a.	Design and Management Costs		$ 1,700
	(1) Engineering design and inspection at approximately 9.7 percent of construction costs (Item c) (Includes PSAR/FSAR)	$ 750	
	(2) Construction management at 11 percent of construction costs (Item c)	820	
	(3) Project management at 1.7 percent of construction costs	130	
b.	Land and land rights		0
c.	Construction costs		8,020
	1. Improvements to land including grading, drainage, paving, parking, fencing, lighting, Pedestrian access walks	1,110	
	2. Buildings (Waste Water Treatment Plant Support Buildings, Addition to Building 12-19)	4,180	
	3. Special equipment	0	
	4. Utilities including electrical power, water, sanitary sewer lines, compressed air, fuel oil, condensate return lines, etc.	2,170	
	5. Demolition	0	
	6. M&O contractor construction support	20	
d.	Standard equipment		0
e.	Major computer items		0
f.	Removal cost less salvage		0
g.	Design and project liaison, testing, checkout and acceptance		0
h.	Subtotal (a through g)		$ 9,720
I.	Contingencies at approximately 16.2 percent of above costs		1,580
j.	Total line item cost (Section 11.a.1.(a))		$ 11,300
k.	LESS: Non-Federal contribution		0
l.	Net Federal total estimated cost (TEC)		$ 11,300

b/ This estimate is based on the Conceptual Design Report, which is 100 percent complete. Total costs have been rounded to the nearest hundred thousand.

c/ Costs have been escalated as follows for each portion of the project: Building ED&I 8.980 percent (December 1996); CM/PM 15.360 percent (September 1998); Construction 14.430 percent (June 1998), Equipment (not applicable). Escalation is based on ICE/CCMD/HQ Guidelines.

10. Method of Performance

The design services (Title I, II, and III) will be accomplished by an outside architect-engineer (A-E) firm under a negotiated fixed-price, lump-sum contract and will be administered by the Department of Energy (DOE) or the Operating Contractor (Mason & Hangar-Silas Mason Co., Inc.)

The construction services of this project will be performed by an outside construction contractor operating under a fixed-price, lump-sum contract to be awarded on the basis of competitive bids. This contract will be administered by the DOE, or the Operating Contractor.

Construction Management Services will be performed by the DOE Operating Contractor and/or by a construction management firm under contract to DOE.

1. Title and Location of Project:	Sewage Treatment Quality Upgrade (STQU) Pantex Plant, Amarillo, Texas (continued)	2a. Project No.: 96-D-122 2b. Construction Funded

11. Schedule of Project Funding and Other Related Funding Requirements

	Prior Years	FY 1997	FY 1998	FY 1999	FY 2000	Outyears	Total
a. Total project costs							
1. Total facility costs							
(a) Line item (Section 9.j.)	$ 6	$ 303	$ 5,697	$ 4,400	$ 500	$ 394	$ 11,300
(b) Plant, Engineering and Design (PE&D)	0	0	0	0	0	0	0
(c) Operating expense funded equipment	0	0	0	0	0	0	0
(d) Inventories	0	0	0	0	0	0	0
Total facility costs (Federal and Non-Federal)	$ 6	$ 303	$ 5,697	$ 4,400	$ 500	$ 394	$ 11,300
2. Other project costs							
(a) R&D necessary to complete construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
(b) Conceptual design costs	500	0	0	0	0	0	500
(c) Decontamination and Decommissioning (D&D)	0	0	0	0	0	0	0
(d) NEPA documentation costs	100	0	0	0	0	0	100
(e) Other project related costs	0	91	100	100	100	109	500
(f) Total other project costs	$ 600	$ 91	$ 100	$ 100	$ 100	$ 109	$ 1,100
(g) Total project costs	$ 606	$ 394	$ 5,797	$ 4,500	$ 600	$ 503	$ 12,400
(h) LESS: Non-Federal contribution	0	0	0	0	0	0	0
(i) Net Federal total project costs (TPC)	$ 606	$ 394	$ 5,797	$ 4,500	$ 600	$ 503	$ 12,400

11. Schedule of Project Funding and Other Related Funding Requirements (Continued)

b. Related annual costs (estimated life of project--30 years)

1. Facility operating costs	$ 1,200
2. Facility maintenance and repair costs	100
3. Programmatic operating expenses directly related to the facility	0
4. Capital equipment not related to construction but related to the programmatic effort in the facility	0
5. GPP or other construction related to programmatic effort in the facility	0
6. Utility costs	100
7. Other costs	0
Total related annual costs	$ 1,400

12. Narrative Explanation of Total Project Funding and Other Related Funding Requirements

a. Total project costs

1. Total facility costs

(a) Line item -- Construction line item costs for engineering design, procurement, and construction are estimated to be $11,300,000.
(b) PE&D -- None.
(c) Operating expense funded equipment -- None.
(d) Inventories -- None.

The facility cost is the only direct cost related to this project. There are no operating expense funded equipment and no inventories associated with the project.

2. Other project costs

(a) R&D necessary to complete construction -- None.
(b) Conceptual design -- $500,000.
(c) Decontamination and Decommissioning (D&D) -- None.
(d) NEPA documentation -- $100,000.
(e) Other project related funding -- Costs are engineering support for preoperational test, checkout and startup -- $500,000.

12. Narrative Explanation of Total Project Funding and Other Related Funding Requirements (Continued)

b. Related annual costs

It is estimated that the facility will be used 25 years for its programmatic purpose.

1. Facility operating costs -- The major elements comprising the annual operating costs are for energy costs, labor costs, and operating costs of mechanical equipment. To operate the facility, fourteen operators on a one shift rotation will be required -- $1,200,000.
2. Facility maintenance and repair costs -- Routine maintenance will be completed by the Pantex Plant craftsmen -- $100,000.
3. Programmatic operating expenses directly related to the facility -- None.
4. Capital equipment not related to construction but related to the programmatic effort in the facility -- None.
5. GPP or other construction related to programmatic effort -- None.
6. Utility costs -- $100,000.
7. Other costs -- None.

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WEAPONS ACTIVITIES
(Tabular dollars in thousands. Narrative material in whole dollars.)

Weapons Stockpile Management

1.	Title and Location of Project:	CMR Upgrades Project	2a. Project No.: 95-D-102
		Los Alamos National Laboratory, Los Alamos, New Mexico	2b. Construction Funded

SIGNIFICANT CHANGES

- Project currently on hold awaiting DOE and LANL assessment of project management deficiencies and Phase 1 cost overruns. Impact to current preliminary baselines have not yet been determined. (Sections 4.b, 5, 7, and 8)

- Construction End Date delayed from 4th Qtr. FY 2002 to 4th Qtr. FY 2004. (Section 4.b)

- Reduced FY 1999 Appropriations request reflects the suspension and restart activities.

- Ongoing programmatic reviews and incorporation of corrective actions and lessons learned from Phase 1 Assessments will be utilized to ensure that required upgrades will be completed within current TEC of $174,100,000. (Section 8)

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WEAPONS ACTIVITIES
(Tabular dollars in thousands. Narrative material in whole dollars.)

Weapons Stockpile Management

1.	Title and Location of Project:	CMR Upgrades Project Los Alamos National Laboratory, Los Alamos, New Mexico		2a. Project No.: 95-D-102 a/ 2b. Construction Funded
		Preliminary Schedule	Title I Baseline	Current Baseline Schedule
3a.	Date A-E Work Initiated (Title I Design Start Scheduled):	1st Qtr. FY 1992 b/		
3b.	A-E Work (Titles I & II) Duration:	84 months		
4a.	Date Physical Construction Starts:	3rd Qtr. FY 1993 b/		
4b.	Date Construction Ends: (Current Execution Schedule):	4th Qtr. FY 2002 c/ 4th Qtr. FY 2004 d/		
		Preliminary Estimate	Title I Baseline	Current Baseline Estimate
5.	Total Estimated Cost (TEC) --	$174,100 c/ d/		
6.	Total Project Cost (TPC) --	$223,635		

a/ Prior to FY 1995, CMR Upgrades Phase 1 was a subproject within Nuclear Weapons Research Development and Testing Facilities Revitalization, Phase 3 (90-D-102). In FY 1995, Phase 1 was segregated and the scope of Phases 2 and 3 were added to create this stand alone line item.

b/ Title I activities have been completed for all Phase I subprojects. Phase 2 subproject Title I activities were ongoing when the project was placed on hold, and Title I baselines have not been established. Complete Title I baseline information will be provided upon restart of Phase 1 and 2 activities.

c/ Phase 2 CDR baseline estimate.

d/ Project currently on hold awaiting DOE and LANL assessment of project management deficiencies and Phase 1 cost overruns. Impact to current preliminary baselines have not yet been determined.

1. Title and Location of Project:	CMR Upgrades Project Los Alamos National Laboratory, Los Alamos, New Mexico (continued)	2a. Project No.: 95-D-102 2b. Construction Funded

7. Financial Schedule (Federal Funds):

Fiscal Year	Appropriations	Adjustments	Obligations	Costs
1992	$ 12,000	$ 6,250 e/	$ 18,250	$ 2,757
1993	10,000	0	10,000	5,061
1994	10,250	0	10,250	10,504
1995	3,300	0	3,300	13,363
1996	9,940	1,000 f/	10,940	14,909
1997	15,000	0	4,000	10,081
1998	5,000 g/	0	8,100	8,600
1999	16,000 h/	0	23,900	23,465
2000	20,000	0	20,000	20,000
2001	20,450	0	20,450	20,450
2002	17,400	0	17,400	17,400
2003	15,800	0	15,800	15,800
2004	11,710	0	11,710	11,710

e/ $6,250,000 was reprogrammed to CMR, Phase 1 subproject of Nuclear Weapons Research, Development and Testing Facilities Revitalization Phase 3 (90-D-102) from Special Nuclear Materials Laboratory Replacement Project (88-D-105). Reprogramming 91-R-14 was executed in FY 1992.

f/ $1,000,000 was reprogrammed by DOE Internal Reprogramming to the CMR Upgrades Project (95-D-102) in the 1st Qtr. FY 1996 from Special Nuclear Materials Laboratory Replacement Project (88-D-105).

g/ Congress provided appropriations below the original request ($15,700,000) based on DOE input relating to estimated impact of project suspension.

h/ FY 1999 funding reduction from that presented in the FY 1998 CPDS is based on suspension and restart activities. Funding in FY 1999 will be applied to Phase 1 design construction and Phase 2 design work.

8. Project Description, Justification and Scope

Project currently on hold awaiting DOE and LANL assessment of project management deficiencies and Phase 1 cost overruns. Impact to current preliminary baselines have not yet been determined.

Ongoing programmatic reviews and incorporation of corrective actions and lessons learned from Phase 1 Assessments will be utilized to ensure that required upgrades will be completed within current TEC of $174,100,000.

The Chemistry and Metallurgy Research (CMR) Building is the largest structure at the Los Alamos National Laboratory (550,000 square feet). Construction of the CMR Building was completed in 1952. Most of the major mechanical and electrical equipment has reached the end of its design life.

Since its construction over 40 years ago, the CMR Building has been used for research, development, and analytical work with plutonium, uranium and their alloys, and other materials in support of weapons, nuclear materials, and other Laboratory programs. This work continues to be essential to the nation's weapons program, with the principal activities in the building being in support of the plutonium research, development, and demonstration activities conducted at the Laboratory's Plutonium Handling Facility at TA-55. The activities that are critical to these plutonium operations are:

- Essential daily analytical chemistry and metallurgical services on plutonium and other actinides.
  - Analyses of plutonium metal preparations for the Laboratory's Weapons Research, Development, and Test Programs.
  - Analyses required for development and demonstration of new and improved processing methods for scrap recovery.
  - Analyses required for accountability and verification of material received or shipped and for on-site transfers.
- The CMR Building future role is also essential for support of several major Defense Programs areas which include:
  - Enhanced Safety and Reliability of Nuclear Weapons
  - Lead Technical Laboratory for Pu and U Processing
  - Weapons Dismantlement and Component Storage

8. Project Description, Justification and Scope: (Continued)

The primary purpose of this project is to upgrade facility systems and infrastructure that have been in continuous operation for over 40 years and are near the end of their useful life. Such upgrading will ensure the continued safety of the public and Laboratory employees and increase the operational safety, reliability and security of essential activities. Increased safety, reliability, and security are critical to the continued operation of the Laboratory's Stockpile Management Programs and other national defense programs.

The Special Nuclear Materials Laboratory (SNML) Project was authorized (88-D-105) to replace the CMR Building at Los Alamos National Laboratory. In FY 1990, the project was put on hold pending a substantive review of the project including other potential options for providing the necessary specialized Laboratory space. As the planned completion date of the SNML continued to be pushed back, it became necessary to provide interim upgrades to CMR to allow its safe and reliable use in the interim period; $6,250,000 was reprogrammed (91-R-14, executed in FY 1992) from the SNML line item to Project 90-D-102, Nuclear Weapons Research, Development and Testing Facilities Revitalization, Phase 3 (WRD&T Revit., 3), subproject CMR Upgrades (Phase 1). Later in FY 1991, it was decided not to proceed with the construction of SNML but provide interim upgrades, to CMR (Phase 1) and to identify further upgrades based on safety and risk assessment, for continued long-term operations. The result of these safety and risk assessments is an Interim Safety Analysis Report (ISAR). The findings of the ISAR are the basis for the scope of CMR Upgrades Phase 2, which was combined with Phase 1 to produce this stand alone line item in FY 1995.

The ISAR includes an analysis of risks associated with natural phenomena design basis accidents, current operations, and comparison to DOE Design criteria (6430.1A). The ISAR was utilized as the basis to identify and prioritize upgrades that would be required to continue operations in a safe, secure, and reliable manner for at least the next 20 years.

8. Project Description, Justification and Scope: (Continued)

a. CMR Phase 1 Upgrade

TEC	Previous	FY 1997	FY 1998	FY 1999	Outyears	Construction Start - Completion Dates
$ 51,600	$ 46,600	$ 4,400	$ 600	$0 d/ h/	$0 d/ h/	3rd Qtr. FY 1993 - 3rd Qtr. FY 1999 d/ h/

Phase 1 was formerly part of WRD&T Revitalization, 3 with a TEC of $49,500,000. Based upon the 1995 baseline change proposal and the completion of the CDR, the TEC changed to $51,600,000 and completion date changed from 3rd Qtr. FY 1996 to 3rd Qtr. FY 1999. Phase 1 of this project consists of required and urgent capital equipment replacements and upgrades in the CMR Building. Individual tasks were initially identified by a panel commissioned by the Deputy Assistant Secretary for Military Application (DASMA) in July 1990, as the minimum essential effort required to maintain operations in the CMR Building while a Safety Analysis Report (SAR) was prepared.

The equipment replacements and upgrades included:

- **Continuous Air Monitor (CAM) Installations**

  Install a new CAM system in the Wings 3, 5, 7, and 9 laboratories. Upgrades include installation of CAMs, Fixed head Air Samplers (FAS), and glovebox hand monitors as required by DOE Order 5480.11 and AR 3-7. Remote monitoring capabilities at the Health Physics office and a data logging system are also included. Existing vacuum systems in Wings 3, 5, and 7 will be utilized while the vacuum system in Wing 9 will be expanded.

d/ Project currently on hold awaiting DOE and LANL assessment of project management deficiencies and Phase 1 cost overruns. Impact to current preliminary baselines have not yet been determined.

h/ FY 1999 funding reduction from that presented in the FY 1998 CPDS is based on suspension and restart activities. Funding in FY 1999 may be applied to Phase 1 design and construction and Phase 2 design work.

8. Project Description, Justification and Scope: (Continued)

- **HVAC Blowers and Motors**

  Replace existing laboratory exhaust fans in the CMR Building and provide vibration analysis for approximately twenty exhaust fans in the CMR Building. Immediate needs are to replace the 200 HP exhaust fans on the first floor of the filter towers in Wings 3, 5, and 7. Other exhaust fans may require replacement contingent on the scope of the Phase 2 Confinement Zone Separation upgrade.

- **Electrical Upgrades**

  The Distribution Analysis and Power Planning Evaluation and Reporting (DAPPER) software will be used for analysis, calculations, and record drawings for all electrical upgrades. Provisions to incorporate a future facility computer monitoring and limited control system will be provided as part of the Electrical Upgrades.

  Exterior Electrical Upgrades: Replace inadequately sized exterior sectionalizing switches, eliminate existing exterior single point failures, modify exterior underground electrical system to allow switching and maintenance functions, upgrade existing controls and correct deficiencies to the existing administration wing, and Wings 1, 3, 4, and 9 substations.

  Substations Upgrade: Replace substations in Wings 2, 5, and 7.

  Wing Electrical Upgrades: Upgrade the interior low voltage power distribution system for all wings except 2 and 4 in the CMR Building. This includes the replacement of power and lighting panel boards, laboratory power panel boards, bus ways, motor control centers, replacement of all obsolete branch and feeder wiring systems, rewiring of laboratories, and upgrading the emergency and exit lighting systems.

  Electrical Upgrades to Support Safe Standby, Wings 2 and 4: Upgrade the interior low voltage power distribution system in Wings 2 and 4, which is necessary for safety systems.

  Spinal Corridor Cable Tray: Provide a cable tray system in the attic spinal corridor.

  Grounding and Lightning Protection: Upgrade the CMR Building grounding and lightning protection systems.

8. Project Description, Justification and Scope: (Continued)

- **Stack Monitors Upgrade**

  Provide a stack effluent monitoring system for the CMR Building that is in compliance with DOE and EPA requirements. Each stack will be evaluated to determine the type of monitoring required. Each stack system will be stand alone, consisting of in-line samplers, CAMS, vacuum pumps, and associated tubing, wiring, and signal processing equipment. This upgrade also includes a data collection system from all of the stack CAM's to the CMR operations room and the ES&H operations room. The stack effluent monitoring will be in compliance with 40 CFR 61 and DOE Order 6430.1A.

  Uninterruptable Power Supply (UPS) Installation

  This Upgrade is in support of the Stack Monitors Upgrade. There will be one UPS supporting the stack monitoring data collection computer systems. The UPS will be capable of providing backup power to the stack effluent monitoring systems for a 4 hour period.

- **Duct Modification**

  Backdraft Dampers: Provide positive shutoff intake backdraft dampers in the supply air ductwork in Wings 2, 3, 4, 5, 7, and 9.

  Duct Washdown Upgrade: Upgrade the existing exhaust duct washdown system in Wings 3, 5, and 7. This includes replacement of piping, valves, and spray heads and installation of new flow measurement devices.

- **Sanitary Sewer Upgrades**

  This subproject was completed 3rd Quarter of FY 1994.

8. Project Description, Justification and Scope: (Continued)

- **Acid Vents and Drains Upgrades**

  Aging piping and a lack of gradient in the acid drain system in the basement of the CMR Building has led to corrosion and clogging of the system. This upgrade includes evaluation and documentation of the existing system, prioritization of the system deficiencies, and cost estimates to correct each deficiency for Wings 3, 5, and 7. Construction will include replacement of piping and components including threaded nipples, fittings, valves, flanged fittings, and gaskets with compatible new components. Remaining system replacement will be incorporated in Phase 1.

- **Fire Hazard Analysis (Formerly Fire Protection Upgrades)**

  This subproject was completed in the 2nd Qtr. FY 1996.

- **Safety Analysis Report**

  This subproject was completed in the 4th Qtr. FY 1995.

- **Engineering Assessments/CDR/EA**

  Engineering Assessment--This project was completed 2nd Qtr. FY 1996.

  An environmental assessment, including all aspects of Phase 2, has been prepared and approval based upon the conceptual design report. This EA assessed the environmental impact of construction as represented by the Phase 2 scope of work.

8. Project Description, Justification and Scope: (Continued)

b. CMR Phase 2 Upgrade

The Phase 2 components are needed to maintain infrastructure, improve safety for public and workers, and enhance environmental management.

TEC	Previous	FY 1997	FY 1998	FY 1999	Outyears	Construction Start - Completion Dates
$122,500	$ 6,140	$ 10,600	$ 4 ,400 d/ i/	$16,000 h/	$ 85,360 d/	2nd Qtr. FY 1997 - 4th Qtr. FY 2004 d/

Based upon completion of the CDR for the Phase 2 scope, the TEC for this phase was increased from $85,000,000 to $122,500,000. The construction start date changed from 2nd Qtr. FY 1996 to 2nd Qtr. FY 1997 and the end date changed from 4th Qtr. FY 2003 to 4th Qtr. FY 2004.

The scope of the following subprojects is being reviewed in FY 1998 based on ongoing programmatic evaluations and incorporation of corrective actions and lessons learned from the Phase 1 assessments to ensure that required upgrades will be completed within the current TEC of $174,100,000.

The additional long term upgrades developed by the Phase 2 CDR process are:

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d Project currently on hold awaiting DOE and LANL assessment of project management deficiencies and Phase 1 cost overruns. Impact to current preliminary baselines have not yet been determined.

i/ Because of a late restart of this Phase, only $5,000,000 ($600,000) for Phase 1, and $4,400,000 for Phase 2) of the increment was requested for FY 1998.

h/ FY 1999 funding reduction based on suspension and restart activities. Funding in FY 1999 may be applied to Phase 1 design and construction and Phase 2 design work.

8. Project Description, Justification and Scope: (Continued)

- **Seismic and Tertiary Confinement (Wings 3, 5, 7, and 9)**

  Structural strengthening to meet the seismic criteria for hazard Category 2 operations. Modification of the existing exterior structural openings in these wings to create a tertiary confinement barrier. Structural strengthening of the Administration Wing (which houses the Operations Center) to meet the seismic criteria for worker safety. Hardening of building openings to security requirements which are also being modified for tertiary confinement. These openings include doors, windows, louvers, etc.

- **Ventilation and Confinement Zone Separation (Wings 3, 5, 7, and 9)**

  Renovate the mechanical systems and the related control systems to replace components that are near the end of their useful lives and to improve confinement zone separation throughout each Wing. Architecturally modifying Wings 3, 5, and 7 to create a secondary confinement barrier. Providing an alarm for each enclosure to alert workers when the mechanical systems are not operating according to safety standards for the facility. Providing a central, chilled water plant to support the mechanical systems' renovations to the building.

- **Standby Power (Wings 3, 5, 7, and 9)**

  Provide standby electrical power to operate the most important mechanical systems at a reduced level sufficient to maintain negative pressure in the laboratory enclosures. This will reduce possibility of spread of contamination due to the loss of offsite power to the ventilation system.

- **Communications (Wings 3, 5, 7, and 9)**

  Improve emergency communications systems thereby improving worker safety.

- **Wing 1 (HVAC) Upgrades/Wing 1 Interim Decontamination**

  Decontaminate the unoccupied, contaminated laboratories in Wing 1, modifying the HVAC exterior intake and exhaust locations for Wing 1 to improve worker health and safety.

8. Project Description, Justification and Scope: (Continued)

- **Operations Center (Administration Wing)**

  Improve the ergonomics and reliability of the building's central monitoring and control capabilities. Install transfer capability and wiring from the standby power generator to the CMR Operation Center to support all functions or systems required to recover the facility after significant accidents.

- **Process Chilled Water (Wings 3, 5, and 7)**

  Replace the 2 existing 40 year old evaporative coolers in each Wing with a single refrigeration unit to provide chilled water for process equipment. Also, replace the existing 40 year old process chilled water piping system with a new piping system.

- **Main Vault**

  CAMs - Install new Canberra CAMs in the vault, ASM 2000 controllers in the anteroom, and incorporate remote monitoring (similar to Wing CAM systems) to the ES&H office. This upgrade would utilize the generic design established for the Wing CAMs.

- **Acid Vents and Drains (Wings 3, 5, and 7)**

  Correct deficiencies not covered in Phase 1 upgrades (Phase 1 addresses major leaks and flanges). Correct area with inadequate slope, replace branches and risers to laboratories as required, and upgrade the ventilation of the system.

- **Fire Protection Upgrades (Entire Facility)**

  Correct fire protection system deficiencies as identified in the 1992 NFPA 101 analysis, and the Fire Hazard Analysis completed in Phase 1. Deficiencies will be prioritized in a cost benefit analysis which will be completed in Phase 1. Examples of current identified deficiencies are: Add check valves in fire protection risers, add backflow preventors in the sprinkler system, provide fire dampers in duct penetrations, replace fire alarm panels.

8. Project Description, Justification and Scope: (Continued)

- **Exhaust Duct Washdown Recycling System (Wings 3, 5, and 7)**

  This recycling system will significantly reduce the waste stream from the facility. The reduction in the waste stream will reduce the demands on the current waste treatment plant.

- **Wings 2 and 4 Safe Standby**

  This upgrade includes the costs necessary to establish a safe standby condition for Wings 2 and 4 pending future programmatic use. Included are identification of safety systems required for safe standby deactivation/decontamination of abandoned systems and gloveboxes, removal of all radioactive materials and chemicals, and removal or stabilization of all loose contamination.

- **ES&H Support Activities**

  Additional enhanced ES&H support activities based on the lessons learned from Phase 1 are being incorporated. These efforts include waste management, waste minimization, ES&H support, risk analysis, and ES&H equipment including personnel protective equipment.

FY 1999 Funding Request will be used for design and construction activities.

9. Details of Cost Estimate j/

SUBPROJECTS	PM & S	ED&I	CONST	STD EQUIP	CONTINGENCY	TEC
a. Phase 1						
Sanitary Sewer Modifications	$ 21	$ 71	$ 68	$ 0	$ 0	$ 160 k/
Acid Vents and Drain Modifications	193	577	651	0	86	1,507
Stack Monitors Upgrades	430	1,467	704	643	112	3,356
CAM Installation	536	718	1 ,447	1,274	204	4,179
Electrical Upgrades	3,443	4,815	14,832	1,831	1,913	26,834
Ductwork Modifications	242	271	1,218	0	153	1,884
HVAC Blowers and Motors	116	129	426	176	56	903
UPS Installation	77	177	304	0	39	597
Fire Hazard Analysis (formerly Fire Protection Upgrades)	299	0	0	0	15	314
Engineering Assessment/Phase 2 Planning	1,284	1,669	0	0	0	2,953 l/
CDR	678	4,111	0	0	257	5,046 m/
Environmental Assessment	1,273	0	0	0	69	1,342 m/
Safety Analysis Report	2,525	0	0	0	0	2,525 k/
Phase 1 Subtotal	$ 11,117	$ 14,005	$ 19,650	$ 3,924	$ 2,904	$ 51,600

j/ The estimates do not include site overhead/landlord costs since FY 1992 was the first year of project funding.
k/ Completed subproject or task.
l/ Additional Engineering Planning/Assessments may be required pending completion of the DOE and LANL assessments.
m/ CDR and Environmental Assessment costs are carried as part of the Phase 1 Engineering Activities/Phase 2 Planning Activities and are broken out for clarity.

9. Details of Cost Estimate (Continued)

SUBPROJECTS	PM & S n/	ED&I	CONST	STD EQUIP	CONTINGENCY	TEC
b. Phase 2						
Seismic and Tertiary Confinement	$ 4,028	$ 2,855	$ 6,715	$ 0	$ 1,947	$ 15,545
Ventilation & Confinement Zone Separation	17,791	8,358	34,176	0	8,326	68,651
Communications	1,076	926	1,243	250	657	4,152
Wing 1 HVAC Upgrades & Decontamination	167	73	326	0	78	644
Operations Center	425	391	625	0	199	1,640
Standby Power	1,534	1,070	2,596	0	717	5,917
Wings 2 and 4 Safe Standby	1,937	784	3,845	0	906	7,472
Process Chilled Water	1,119	746	1,734	0	720	4,319
Main Vault	187	268	180	0	88	723
Acid Vents and Drains	2,066	709	3,782	0	1,414	7,971
Fire Protection	1,114	363	2,300	0	521	4,298
Exhaust Duct Washdown Recycle	303	255	468	0	142	1,168
Phase 2 Subtotal	$ 31,747	$ 16,798	$ 57,990	$ 250	$ 15,715	$122,500
Total Estimated Cost	$ 42,864	$ 30,803	$ 77,640	$ 4,174	$ 18,619	$174,100

Engineering, design, and inspection cost-of-services were estimated from historical records and experience with drawing and man hour requirements established for each discipline, ED&I represent approximately 43 percent of construction costs. ED&I costs captured in Phase 1 included Phase 2 planning and CDR development for Phases 1 and 2. Phase 2 ED&I represent approximately 29 percent of Phase 2 construction. d/

d/ Project currently on hold awaiting DOE and LANL assessment of project management deficiencies and Phase 1 cost overruns. Impact to current preliminary baselines have not yet been determined.

n/ Included are project management, project controls, administration, construction management, acquisition, design management, quality assurance, and ES&H support.

9. Details of Cost Estimate (Continued)

Contingencies represent approximately 11 percent of costs. The contingency rate is the result of a contingency analysis of various items based on relative risk ratings compared to ratings of relative importance of a particular item to the project. The analysis of various items results in different contingency rates depending on the item. The contingency rate shown here is an average rate resulting from the contingency analysis and weighing according to the item's relative cost.

10. Method of Performance

Procurement will be accomplished under fixed-price subcontracts awarded on the basis of competitive bidding. Consideration will be given to cost-plus-fixed fee on decontamination and refurbishment work on the CMR. Upgrades construction will be done by fixed price contractors and the Laboratory's support services subcontractor. The operating contractor and contracted Architect-Engineers will perform construction inspection.

11. Schedule of Project Funding and Other Related Funding Requirements

	Prior Years	FY 1997	FY 1998	FY 1999	FY 2000	Outyears	Total
a. Total project costs							
1. Total facility costs							
(a) Line item (Section 9.j.)	$ 46,594	$ 10,081	$ 8,600	$ 23,465	$ 20,000	$ 65,360	$174,100
(b) Plant, Engineering and Design (PE&D)	0	0	0	0	0	0	0
(c) Operating expense funded equipment	0	0	0	0	0	0	0
(d) Inventories	0	0	0	0	0	0	0
Total facility costs (Federal and Non-Federal)	$ 46,494	$ 10,081	$ 8,600	$ 23,465	$ 20,000	$ 65,360	$174,100
2. Other project costs							
(a) R&D necessary to complete project	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
(b) Conceptual design cost	0	0	0	0	0	0	0 m/
(c) Decontamination and Decommissioning (D&D)	0	0	0	0	0	0	0
(d) NEPA documentation costs	0	0	0	0	0	0	0 m/
(e) Other project related costs	10,968	300	2,400	2,000	2,500	31,367	49,535
(f) Total other project costs	$ 10,968	$ 300	$ 2,400	$ 2,000	$ 2,500	$ 31,367	$ 49,535
(g) Total project costs	57,562	$ 10,381	$ 11,000	$ 25,465	$ 22,500	$ 96,727	$223,635
(h) LESS: Non-Federal contribution	0	0	0	0	0	0	0
(i) Net Federal total project costs (TPC)	$ 57,562	$ 10,381	$ 11,000	$ 25,465	$ 22,500	$ 96,727	$223,635

m/ CDR and Environmental Assessment costs are carried as part of the Phase 1 Engineering Activities/Phase 2 Planning Activities and are broken out for clarity.

11. Schedule of Project Funding and Other Related Funding Requirements (Continued)

b. Related annual costs (estimated life of project--20 to 40 years)

1. Facility operating costs	$ 10,000
2. Facility maintenance and repair costs	2,500
3. Programmatic operating expenses directly related to the facility	30,000
4. Capital equipment not related to construction but related to the programmatic effort in the facility	1,000
5. GPP or other construction related to programmatic effort in the facility	1,000
6. Utility costs	2,450
7. Other costs	0
Total related annual costs	$ 46,950

12. Narrative Explanation of Total Project Funding and Other Related Funding Requirements

a. Total project funding
   1. Total facility costs
      (a) Line item -- Narrative not required.
      (b) PE&D -- None.
      (c) Operating expense funded equipment -- Narrative not required.
      (d) Inventories -- None.
   2. Other project costs
      (a) R&D necessary to complete construction -- No research and development is necessary to establish the specific design and construction features.
      (b) Conceptual design -- None. Phase 1 line item. m/
      (c) Decontamination and Decommissioning (D&D) -- None.
      (d) NEPA documentation -- None. Phase 1 line item costs include NEPA documentation costs. m/
      (e) Other project related costs -- Operational testing and acceptance, including the Operational Readiness Review has been allowed on selected major system upgrades. Training materials, programs, and test/certification will be updated to reflect the change in site operations resulting from selected systems upgrades becoming operational.

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m/ CDR and Environmental Assessment costs are carried as part of the Phase 1 Engineering Activities/Phase 2 Planning Activities and are broken out for clarity.

12. Narrative Explanation of Total Project Funding and Other Related Funding Requirements (Continued)

b. Related annual costs
   1. Facility operating costs -- The CMR facility were estimated from the FY 1995 budget requirements for CMR operations.
   2. Facility maintenance and repair costs -- These are based upon current budget requirements for CMR maintenance.
   3. Programmatic operating expenses directly related to the facility -- The programmatic effort which relies upon the direct and primary use of the CMR facilities was established at the FY 1992 level-of-effort based on the unique capabilities of handling radioactive materials. This assumes a constant level-of-effort in these programs.
   4. Capital equipment requirements for programmatic support were estimated at $1,000,000/year based upon recent trends in CMR programmatic needs.
   5. GPP or other construction related to programmatic effort -- These are anticipated to be approximately $1,000,000/year based upon current CMR programmatic needs.
   6. Utility costs -- These are estimated at $2,450,000/year based upon current trends in CMR operations.
   7. Other costs -- None anticipated.

DEPARTMENT OF ENERGY
FY 1999 CONGRESSIONAL BUDGET REQUEST
(Changes from FY 1998 Congressional Budget Request are denoted with a vertical line in left margin.)

WEAPONS ACTIVITIES
(Tabular dollars in thousands. Narrative material in whole dollars.)

Weapons Stockpile Management

1.	Title and Location of Project:	Life Safety Upgrades, Y-12 Plant Oak Ridge, Tennessee	2a. Project No. 93-D-122 2b. Construction Funded

SIGNIFICANT CHANGES

- TEC and TPC increased from $29,200,000 and $30,320,000 to $32,450,000 and $35,750,000, respectively, due to increased emphasis on conduct of operations (CONOPS). TPC increase also reflects an additional $2,180,000 to reflect additional operational training, procedure requirements, site characterization, transition planning, and acceptance testing.

- The Y-12 Plant went through a major reemphasis on the conduct of operations (CONOPS) in the first quarter of FY 1995. This change emphasized more rigor in the planning, coordinating, and documenting of activities than was previously required and assumed during the development of the project estimate. The new conduct of operations has increased documentation requirements for performing work in both nuclear and non-nuclear facilities, (e.g., more extensive safety documentation, work plans, procedures for performing work, training documentation, etc.) and increased training requirements (including documentation) for performing work in nuclear facilities.

- Completion date of 4th quarter FY 1998 has been changed to 1st quarter FY 2000 to accommodate increased emphasis on conduct of operations.

- The funding and schedule changes are per approved Baseline Change Proposal AL97014.

DEPARTMENT OF ENERGY
FY 1999 CONGRESSIONAL BUDGET REQUEST
(Changes from FY 1998 Congressional Budget Request are denoted with a vertical line in left margin.)

WEAPONS ACTIVITIES
(Tabular dollars in thousands. Narrative material in whole dollars.)

Weapons Stockpile Management

1.	Title and Location of Project: Life Safety Upgrades, Y-12 Plant Oak Ridge, Tennessee			2a. Project No.: 93-D-122 2b. Constructed Funded
		Preliminary Schedule	Title I Baseline a/	Current Baseline Schedule
3a.	Date A-E Work Initiated (Title I Design Start Scheduled):	1st Qtr. FY 1993	1st Qtr. FY 1993	1st Qtr. FY 1993
3b.	A-E Work (Titles I & II) Duration:	48 months	36 months	36 months
4a.	Date Physical Construction Starts:	1st Qtr. FY 1994	3rd Qtr. FY 1994	3rd Qtr. FY 1994
4b.	Date Construction Ends:	4th Qtr. FY 1997	4th Qtr. FY 1998	1st Qtr. FY 2000 b/
		Preliminary Estimate	Title I Baseline	Current Baseline Estimate
5.	Total Estimated Cost (TEC) --	$34,300	$29,200	$32,450 b/
6.	Total Project Cost (TPC) --	$35,180	$30,320	$35,750 b/

a/ Reflects design baseline after completion of Titles I and II.
b/ The funding and schedule changes are per approved Baseline Change Proposal AL97014.

1. Title and Location of Project:	Life Safety Upgrades, Y-12 Plant Oak Ridge, Tennessee (continued)	2a. Project No.: 93-D-122 2b. Construction Funded

7. Financial Schedule (Federal Funds):

Fiscal Year	Appropriations	Adjustments	Obligations	Costs
1993	$ 2,700	$ 0	$ 2,700	$ 625
1994	5,000	0	5,000	1,682
1995	5,000	0	5,000	5,838
1996	7,200	0	7,200	6,808
1997	7,200	0	7,200	6,690
1998	2,100	0	2,100	5,010
1999	3,250	0	3,250	5,400
2000	0	0	0	397

8. Project Description, Justification and Scope

The purpose of this project is to begin to bring the Y-12 Plant into compliance with NFPA codes, as required by OSHA and by DOE Orders such as 5480.7. The project is part of a program to bring the plant into compliance. The items to be corrected by this project have been identified by internal audits, technical safety appraisals, and tiger team audits. Additional items identified but not included in this project will be prioritized, estimated, and (1) included in a future project or (2) added to this project in a future year if adequate funds are available.

This project will provide upgrading and modernization of fire protection systems, electrical equipment, mechanical systems, and emergency electrical generators which provide power for critical life safety systems. This project is part of a program which is intended to upgrade the Y-12 Plant's compliance with National Fire Protection Association (NFPA) codes related to life safety. The extent of this project will address in excess of 200 buildings at the Y-12 Plant.

The project will provide improvements to life safety in a number of areas, such as fire protection sprinklers, fire doors and walls, smoke detectors, fire alarms, emergency electrical generators, and mechanical systems. The fire protection sprinkler improvements will involve the addition of sprinklers to areas which are not covered or modifications to existing sprinkler systems to correct conditions which are in conflict with national codes. The project will install fire doors and install or upgrade fire walls to provide adequate fire separation of emergency egress paths. Smoke detection systems will be provided for life safety exists. The existing fire alarm systems will be upgraded or replaced to comply

8. Project Description, Justification and Scope (Continued)

fully with current codes. Fourteen existing emergency generators and their controls, which supply power to life safety systems such as evacuation alarms, criticality alarms, and fire alarms, will be replaced with modern equipment.

FY 1999 obligations will provide funding to complete the construction of the non-fire alarm elements of the Life Safety Upgrades.

1. Title and Location of Project:	Life Safety Upgrades, Y-12 Plant Oak Ridge, Tennessee (continued)	2a. Project No.: 93-D-122 2b. Construction Funded

9. Details of Cost Estimate c/

		Item Cost	Total Cost
a.	Design and Management Costs		$ 10,500
	(1) Engineering design and inspection at approximately 29 percent of construction costs (Item c)	$ 5,560	
	(2) Construction management	1,300	
	(3) Project management at approximately 19 percent of construction costs (Item c)	3,640	
b.	Land and land rights		0
c.	Construction costs		19,280
	1. Improvements to land	0	
	2. Buildings	16,530	
	3. Special equipment	1,300	
	4. Utilities	1,450	
	5. Demolition	0	
d.	Standard equipment		0
e.	Major computer items		0
f.	Removal cost less salvage		0
g.	Design and project liaison, testing, checkout and acceptance		180
h.	Subtotal (a through g)		$ 29,960
i.	Contingencies at approximately 8 percent of above costs		2,490
j.	Total line item cost (Section 11.a.1.(a))		$ 32,450 d/
k.	LESS: Non-Federal contribution		0
l.	Net Federal total estimated cost (TEC)		$ 32,450

c/ The current cost estimate is based on the latest project in-depth review and includes actual costs, contract awards, and the estimate to complete from project participants.

d/ Applicable escalation rates are taken from the DOE Oak Ridge Field Office escalation multipliers issued January 1996. The escalation rates were based on escalation of 2.5 percent in FY 1997, 2.6 percent for FY 1998, 2.7 percent for FY 1999, and 2.8 percent for FY 2000.

10. Method of Performance

Facility Manager will provide engineering and procurement services for the new fire alarm and detection system. Engineering on the remaining subprojects will be performed under a negotiated fixed-price architect-engineer contract. To the extent feasible, construction and procurement will be accomplished with a construction manager using fixed-price subcontractors.

11. Schedule of Project Funding and Other Related Funding Requirements

	Prior Years	FY 1997	FY 1998	FY 1999	FY 2000	Outyears	Total
a. Total project costs							
1. Total facility costs							
(a) Line item (Section 9.j.)	$ 14,953	$ 6,690	$ 5,010	$ 5,400	$ 397	$ 0	$ 32,450
(b) Plant, Engineering and Design (PE&D)	0	0	0	0	0	0	0
(c) Operating expense funded equipment	0	0	0	0	0	0	0
(d) Inventories	0	0	0	0	0	0	0
(e) Total facility costs (Federal and Non-Federal)	$ 14,953	$ 6,690	$ 5,010	$ 5,400	$ 397	$ 0	$ 32,450
2. Other project costs							
(a) R&D necessary to complete project	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
(b) Conceptual design cost	230	0	0	0	0	0	230
(c) Decontamination and Decommissioning (D&D)	0	0	0	0	0	0	0
(d) NEPA documentation costs	20	0	0	0	0	0	20
(e) Design criteria costs	0	0	0	0	0	0	0
(f) Other project related costs	750	1,480	670	150	0	0	3,050
(g) Total other project costs	$ 1,000	$ 1 ,480	$ 670	$ 150	$ 0	$ 0	$ 3,300
(h) Total project costs	$15,953	$ 8,170	$ 5,680	$ 5,550	$ 397	$ 0	$ 35,750
(i) LESS: Non-Federal contribution	0	0	0	0	0	0	0
(j) Net Federal total project costs (TPC)	$15,953	$ 8,170	$ 5,680	$ 5.550	$ 397	$ 0	$ 35 750

11. Schedule of Project Funding and Other Related Funding Requirements (Continued)

b. Related annual costs (estimated life of project--30 years)

1.	Facility operating costs	$ 0
2.	Facility maintenance and repair costs	0
3.	Programmatic operating expenses directly related to the facility	0
4.	Capital equipment not related to construction but related to the programmatic effort in the facility	0
5.	GPP or other construction related to programmatic effort in the facility	0
6.	Utility costs	0
7.	Other costs	0
	Total related annual costs	$ 0

12. Narrative Explanation of Total Project Funding and Other Related Funding Requirements

a. Total project funding

1. Total facility costs

(a) Line item -- Construction line item costs for the engineering design, procurement, and construction are estimated to be $32,450,000.

(b) PE&D -- None.

(c) Operating expense funded equipment -- None.

(d) Inventories -- None.

The facility cost is the only direct cost related to this project. There are no operating expense funded equipment and no inventories associated with the project.

12. Narrative Explanation of Total Project Funding and Other Related Funding Requirements (Continued)

2. Other project costs
   (a) R&D necessary to complete construction -- None.
   (b) Conceptual design -- Approximately $230,000 was incurred to develop the scope of the project.
   (c) Decontamination and Decommissioning (D&D) -- None.
   (d) Site characterization -- Approximately $1,000,000 will be incurred to perform site characterization activities.
   (e) NEPA Documentation -- Approximately $20,000 was incurred for NEPA documentation.
   (f) Other project related funding -- Engineering and operational support activities (including increased training, transition planning, acceptance testing, and operating procedure changes) for Y-12 Plant functions before and during design and construction is estimated to cost approximately $2,050,000.

b. Related annual costs -- None.